

Color ID Card Printer II

Operating Instructions

Notices

The information in this document is subject to change without notice.

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Patent Pending

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Printing History

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For Users in the United States:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Use of a shielded cable is required to comply with the Class A limits of Part 15 of the FCC Rules.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate and/or obtain warranty service for this equipment.

For Users in Canada:

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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A. How Your Color ID Card Printer Works

The Color ID Card Printer utilizes dye-sublimation printing technology to achieve its direct-to-card photo-quality output. Dye-sublimation is a process which uses a dye-based ribbon roll that is partitioned by a number of consecutive color panels. The panels are grouped in a repeating series of four separate colors, Yellow, Magenta, Cyan, and Black (YMCK), along the entire length of the ribbon. The ID Card Printer always prints the yellow panel first, followed by the magenta panel, the cyan panel, and finally the black panel. If applicable, the fifth clear overlay panel will always follow the black panel.

As the ribbon and card pass simultaneously beneath the printhead, the hundreds of thermal elements within the printhead heat the dyes on the ribbon. When these dyes are heated, they vaporize and diffuse into the surface of the card. By varying the heat intensity of each thermal element within the printhead, it is possible for each transferred dot of color to vary in hue, thus blending one color into the next. The result? Continuous-tone, photo-realistic color images.

The Color ID Card Printer will print from any IBM-PC® or compatible running Windows™ 3.1x or Windows 95. This means that you can use the printer with virtually any software package running under Windows without any special set-up or configuration beyond the initial installation of the specific software driver and interface cable.

Data is sent to the Color ID Card Printer in a bit-mapped, rasterized format so your computer, along with the printer driver software, will do almost all of the complex Raster Image Processing ("RIP") work; therefore, the faster your computer, the faster the image will be RIP'd and sent to the printer.

B. Special Features

Your Color ID Card Printer has many distinct advantages over other color ID card printers. Its 100 card capacity card hopper allows for automatic card feeding which reduces the time and personnel required to create a photo ID card. In addition, the Color ID Card Printer offers:

- Automatic, dual-sided printing in color or monochrome

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Introduction

Congratulations on your purchase of the Color ID Card Printer. This printer has been designed to provide you with stunning, photo-quality color output on a variety of different card sizes and thicknesses. It offers many features which easily allow you to create full-color photo ID cards complete with high resolution graphics, text, bar codes, and even a clear or holographic overlamine.

- Simultaneous dye-sublimation/resin thermal transfer printing capability for printing continuous-tone photos and crisp, readable bar codes
- Thermal transfer film or polyester chip overlamine capabilities
- Optional magnetic stripe or smart card encoding capabilities
- A fast print speed of just 30 seconds/full color card
- Fast, 32-bit print spooler for Windows 95
- Dual-sided card cleaning system
- Upgradable memory (2MB maximum)
- Optional color matching software
- Optional Ethernet network support

And best of all, operation of the printer is simple and straight forward. Please refer to the remainder of this manual for instructions on setting up and printing with your new Color ID Card Printer.

Warnings

CAUTION!

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE. TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE FRONT, TOP OR BACK PANELS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Before operating the unit, please read the following safety precautions carefully.

- Operate the unit only on 110-120 VAC, 50/60 Hz. For printers that have been shipped outside of the United States and Canada, operate the unit only on 220-240 VAC, 50/60 Hz. If you have any doubt as to whether you have a unit with the correct voltage rating for your country's power supply, **DO NOT ATTEMPT TO USE THE UNIT.** Contact your dealer or the factory.
- Stop operation immediately if any liquid or solid object should fall into the cabinet. Unplug the unit and have it checked by qualified service personnel.
- Do not disassemble the cabinet. Refer servicing only to qualified personnel.
- Service personnel: parts of this device may be damaged if exposed to static electrical discharges generated by various means, such as walking on a carpeted floor. To avoid potential damage, always wear an appropriate personal grounding device, such as a wrist strap (w/ integral resistor) connected to an ESD ground. Or, at a minimum, make positive contact with the bare metal chassis of the printer with your hand prior to touching any internal electrical components.

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Safety Precautions

Sicherheits- maßnahmen

**Machen Sie sich vor
Inbetriebnahme des
Geräts mit den
Sicherheitsmaßnahmen
gründlich vertraut.**

Sicherheitshinweise

VORSICHT!

ZUR VERHÜTUNG VON FEUERGEFAHR ODER ELEKTRISCHEN SCHLÄGEN DAS GERÄT VOR REGEN ODER FEUCHTIGKEIT SCHÜTZEN. UM DIE GEFAHR VON STROMSCHLÄGEN ZU VERHINDERN, OBERE, SEITLICHE UND HINTERE ABDECKUNG NICHT ABNEHMEN. DAS GERÄT ENTHÄLT KEINE TEILE, DIE VOM BENUTZER GEWARTET WERDEN KÖNNEN. WARTUNGSARBEITEN DÜRFEN NUR VON QUALIFIZIERTEM FACHPERSONAL DURCHGEFÜHRT WERDEN.

- Das Gerät nur mit 120 V 50/60 Hz Wechselstrom betreiben. Drucker, die außerhalb der USA und Kanada verwendet werden, nur mit 220/240 V 50/60 Hz Wechselstrom betreiben. Wenn Sie nicht sicher sind, ob Ihr Gerät mit der Spannung des örtlichen Stromnetzes arbeitet, **DAS GERÄT NICHT IN BETRIEB NEHMEN**. Wenden Sie sich an Ihren Händler oder den Hersteller des Geräts.
- Den Betrieb sofort unterbrechen, wenn ein Gegenstand in das Gehäuse gefallen oder Flüssigkeit eingedrungen ist. Den Netzstecker ziehen und das Gerät von qualifiziertem Wartungspersonal überprüfen lassen.
- Keine Gehäuseteile abnehmen. Wartungsarbeiten nur von qualifiziertem Fachpersonal durchführen lassen.

Avertissements

ATTENTION!

POUR EVITER TOUT RISQUE D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A LA PLUIE OU A L'HUMIDITE. POUR EVITER TOUTE DECHARGE ELECTRIQUE, NE PAS RETIRER LES PANNEAUX AVANT, SUPERIEUR OU ARRIERE. NE PAS TENTER DE REPARER SOI-MEME LES PIECES A L'INTERIEUR DE L'APPAREIL. CONFIER L'ENTRETIEN DE L'APPAREIL A UN PERSONNEL QUALIFIE.

Consignes de sécurité

Avant d'utiliser l'appareil, prière de lire attentivement les consignes de sécurité suivantes.

- Faire fonctionner l'appareil uniquement sur courant alternatif de 110/120 V, 50 ou 60 Hz. Les imprimantes expédiées en-dehors des Etats-Unis et du Canada fonctionnent uniquement sur courant alternatif de 220/240 V, 50 or 60 Hz. En cas de doute sur la compatibilité entre la tension nominale de l'appareil et le courant du pays d'utilisation, **NE PAS TENTER D'UTILISER L'APPAREIL.** Contacter le revendeur ou l'usine.
- Arrêter immédiatement le fonctionnement si un liquide ou un solide venait à s'infiltrer à l'intérieur de l'armoire. Débrancher l'appareil et le faire vérifier par un personnel qualifié.
- Ne pas démonter l'appareil. Confier l'entretien de l'appareil à un personnel qualifié.

Precauciones de seguridad

Antes de operar la unidad, haga el favor de leer detenidamente las siguientes precauciones de seguridad.

Advertencias

¡PRECAUCION!

PARA EVITAR PELIGROS DE INCENDIO O CHOQUE ELECTRICO, NO EXPONGA LA UNIDAD A LA LLUVIA NI A LA HUMEDAD. PARA REDUCIR EL RIESGO DE CHOQUE ELECTRICO, NOQuite los paneles frontales, superiores, laterales ni de fondo. El interior no tiene piezas reparables por el usuario. Para servicio de reparacion y mantenimiento solicite la atencion de un tecnico de servicio autorizado.

- Opere la unidad sólo a 110-120 VAC, 50/60 Hz. Para las impresoras enviadas fuera de los Estados Unidos y Canadá, opere la unidad sólo a 220-240 VAC, 50/60 Hz. Si no está seguro que la unidad que tiene es compatible al voltaje de la corriente eléctrica de su país, **NO INTENTE USAR LA UNIDAD**. Llame al representante de ventas o a la fábrica.
- Detenga la operación inmediatamente si algún líquido u objeto sólido cayera en el armario. Desenchufe la unidad y hágala revisar por un técnico de servicio autorizado.
- No desarme el armario. Para servicio de mantenimiento, solicite la atención de un técnico autorizado.

Avvertenze

ATTENZIONE!

ONDE EVITARE IL PERICOLO DI INCENDIO O SCOSSA ELETTRICA, NON ESPORRE L'UNITÀ ALLA PIOGGIA OD UMIDITÀ. EVITARE DI RIMUOVERE I PANNELLI ANTERIORE, SUPERIORE, O POSTERIORE PER RIDURRE IL RISCHIO DI SCOSSA ELETTRICA. LA MANUTENZIONE DELLE PARTI INTERNE DELL'UNITÀ NON É DI COMPETENZA DELL'UTENTE. AI FINI DELLA RIPARAZIONE RIVOLGERSI AL PERSONALE DI COMPETENZA.

Prima di dare inizio al funzionamento dell'unità, siete pregati di leggere attentamente le seguenti precauzioni di sicurezza.

- Negli Stati Uniti e Canada l'unità funziona solo con alimentazione a 110-120 VAC, 50/60 Hz. Le stampanti destinate ad altri paesi funzionano solo con alimentazione a 220/240 VAC, 50/60 Hz. Qualora non abbiate la certezza che il trasformatore e la spina di cui disponete siano quelli adeguati all'alimentazione erogata nel vostro paese, **NON USARE L'UNITÀ**. Rivolgersi piuttosto al rivenditore o la fabbrica del luogo.
- Arrestare immediatamente il funzionamento dell'unità qualora si verifichi un versamento di liquido o la caduta di un oggetto solido al suo interno. Staccare la spina e rivolgersi al personale di assistenza qualificato.
- Non smontare la struttura dell'alloggiamento. Le riparazioni vanno effettuate solo dal personale di competenza.

Precauzioni per la Sicurezza

Precauções de Segurança

Antes de operar esta unidade, leia cuidadosamente as seguintes precauções de segurança.

Advertências

CUIDADO!

PARA EVITAR PERIGO DE CHOQUES ELÉTRICOS OU INCÊNDIO, NÃO EXPONHA A UNIDADE À CHUVA OU UMIDADE. PARA REDUZIR O RISCO DE CHOQUES ELÉTRICOS, NÃO REMOVA OS PAINÉIS DIANTEIRO, SUPERIOR OU TRASEIRO. NENHUMA PEÇA NO INTERIOR DESTA UNIDADE PODE SER CONSERTADA PELO USUÁRIO. PEÇA ASSISTÊNCIA AO PESSOAL DE MANUTENÇÃO QUALIFICADO.

- Opere esta unidade somente em 110-120 VAC, 50/60 Hz. As impressoras enviadas para fora dos Estados Unidos ou Canadá devem ser operadas somente em 220-240 VAC, 50/60 Hz. Se você não souber se a sua unidade tem a voltagem correta para o sistema elétrico do seu país, **NÃO TENHA USAR ESTA UNIDADE.** Entre em contato com seu revendedor ou com a fábrica.
- Pare imediatamente a operação se qualquer líquido ou objeto sólido cair no gabinete. Desligue a unidade da tomada e leve-a ao pessoal de manutenção qualificado.
- Não desmonte o gabinete. Peça assistência somente ao pessoal qualificado.

Chinese or Japanese to be
keylined here

Chinese or Japanese to be
keylined here

Arabic to be keylined here

3

Getting Started

A. Choosing a Good Location

Place the unit in a location with adequate air circulation to prevent internal heat build up.

1. Use the dimensions specified in Section 11 as a guideline for the minimum clearances to the unit.

NOTE

Allow for adequate clearance above the unit to accommodate the height of the unit with its covers open.

2. Do not install unit (a) near heat sources such as radiators or air ducts, or (b) in a place subject to direct sun-light, excessive dust, mechanical vibration or shock.

B. About Moisture Condensation

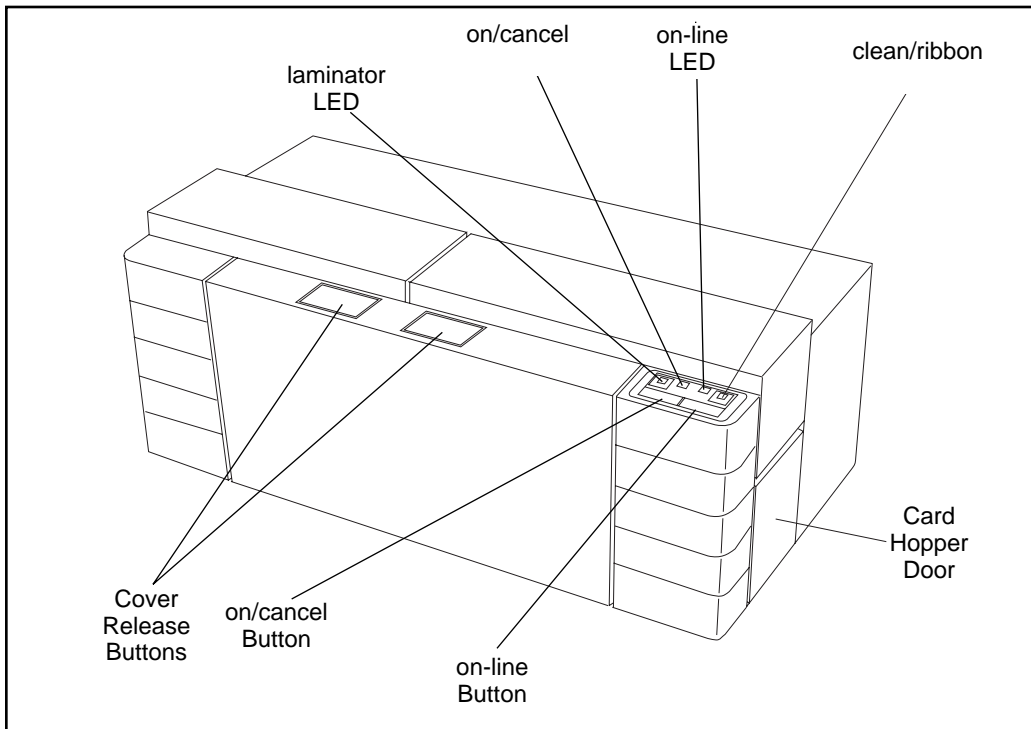
If the unit is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense inside the unit. Should this occur, print quality may not be optimum. Leave the unit turned OFF in a warm, dry room for several hours before using. This will allow the moisture to evaporate.

C. Unpacking and Inspection

While unpacking your printer, inspect the carton to ensure that no damage has occurred during shipping. Make sure that all supplied accessories are included with your unit. The following items should be included with your Color ID Card Printer:

- Printer
- Power Cord
- Cleaning Roller
- Printer Driver Diskette (3.5")
- 32-bit Print Spooler Software; for use in Windows 95 only
- Warranty Statement and Registration Card
- This manual and other printed information

Save the carton and packing materials. They will come in handy when transporting the unit or shipping it for service.



D. Identifying the Parts

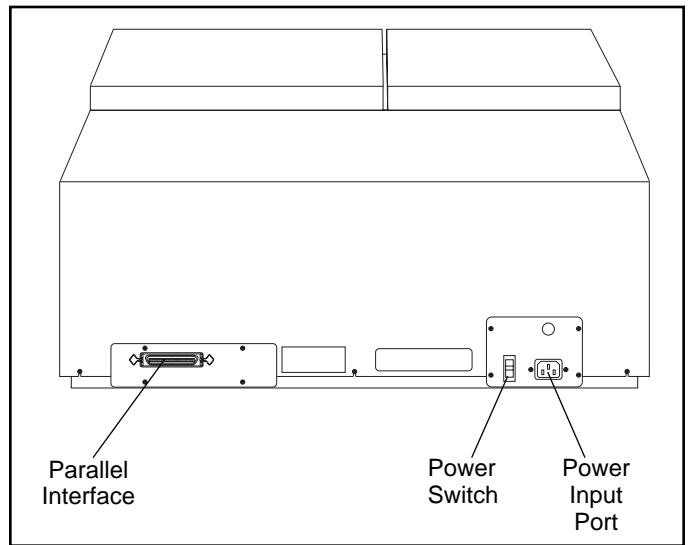
1. This illustration shows all of the control buttons and the LED indicator lights found on the front of the Color ID Card Printer. The **laminator** light indicates the current status of the printer's built-in laminator. When the light is flashing, the laminator is either heating up or cooling down. When the light is solid, the laminator has reached and is maintaining its target temperature.

The **on/cancel** button signifies that the printer power is ON and also serves to cancel the current print job and reset the printer for the next print job. This button also ejects any cards left within the printer after a print job is canceled.

The **on-line** button takes the printer on and off-line. The printer must have the on-line light illuminated in order to print. When flashing, the on-line light also serves to indicate a print error condition. Such conditions are discussed in Section 10 of this manual.

The **clean/ribbon** light illuminates when your ribbon supply is getting low. The light will illuminate when approximately 10-20 prints are left on the ribbon. The clean/ribbon light also serves as a reminder that the printer should be cleaned during every ribbon change (about every 250 prints) according to the steps in this manual's Maintenance Section.

2. This illustration shows the input ports found on the rear panel of the printer. For complete instructions about each of these features, see later sections of this manual.



A. About Ribbons

The Color ID Card Printer has the following ribbon types available for printing:

- **Standard Resin Black (K)** ribbon with no clear overlay panel (produces 1,000 prints)
- A variety of **Colored Resin** ribbons with no clear overlay panel (produce 1,000 prints)
- **Premium Resin Black (K)** ribbon with no clear overlay panel (produces 1,000 prints)
- A gold **Metallic Resin** ribbon with no clear overlay panel (produces 1,000 prints)
- **Dye-Sublimation Black (BO)** ribbon with a clear overlay panel (produces 500 prints)
- **Full-Color (YMCBO)** ribbon with a dye-sublimation black panel and a clear overlay panel (produces 250 prints)
- **Full-Color (YMCKO)** ribbon with a resin black panel and a clear overlay panel (produces 250 prints)
- **Full-Color (YMCKOK)** ribbon with 2 resin black panels and a clear overlay panel (produces 250 prints)
- **Full-Color (YMCKK)** ribbon with 2 resin black panels and NO clear overlay panel (produces 250 prints)

The ribbons which have a clear overlay panel (O) will print an ID card and place a clear, protective overlay over the card's printable area. Be sure that the **Overlay** option within the printer driver setup window is selected when printing with these ribbons unless you intend to utilize the printer's built-in laminator. When applying the PolyGuard overlamine, do not apply the ribbon's clear overlay panel since it will interfere with the transfer of the overlamine material. When applying the film overlamine, the ribbon's clear overlay should be applied on top of the overlamine. See Section 5-B for further overlamine information. See Section 7-B for instructions on enabling or disabling the printer's Overlay option.

NOTE

All color or monochrome dye-sublimation cards must have either a printed overlay or a chip or film overlamine applied to them. If neither of these types of protective coatings are applied, your card's dye-sublimation image will quickly begin to wear or fade. Cards printed solely with monochrome resin text, bar codes, or images do not require any type of protective overlay or overlamine.

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Ribbons and Cards

The ribbons which utilize a resin black (K), are intended for printing bar codes onto cards which can be read by both infra-red and visible light bar code scanners. Bar codes printed with a dye-sublimation black (B) can only be read by a visible light bar code scanner.

The black monochrome-only resin ribbons (K) are available in both a premium and standard quality. The premium resin black ribbon provides maximum durability and is ideal for applications such as access control where cards are repeatedly swiped through a magnetic stripe reader. The standard resin black ribbon provides high durability ideal for most general purpose ID card applications.

In addition to a standard black resin ribbon, several other standard resin ribbons are also available in a variety of spot colors including blue, green, red, and metallic gold. All monochrome resin ribbons provide 1,000 prints. Bar codes printed with the blue and green ribbons can be read by both infra-red and visible light bar code scanners. Bar codes printed with the metallic gold ribbon can only be read by an infra-red bar code scanner. Bar codes printed with the red ribbon are **NOT** readable.

The Full-Color YMCKK ribbon is intended to be used for dual-sided printing. By supplying two resin black panels, this ribbon lets you print full-color on one side and monochrome resin black on the other, without wasting an entirely new set of ribbon panels for the monochrome side. Since no overlay panel is included, this ribbon must be used in conjunction with the printer's overlamine function. If you do not wish to use the overlamine function, another Full-Color YMCKOK ribbon is available which also includes a clear overlay panel. When printing with either of these ribbons, no overlamine is necessary for the monochrome resin black side.

IMPORTANT!

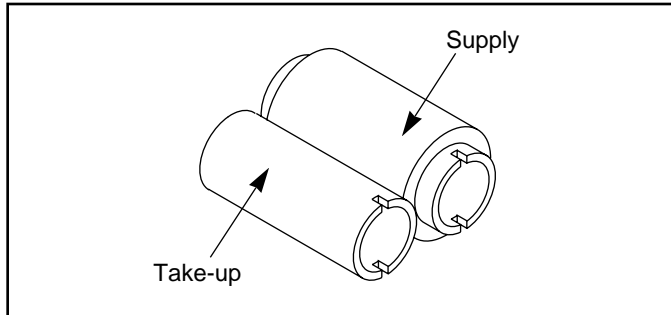
Watches, rings, bracelets, and other jewelry can damage the printhead if accidentally bumped against it. For best results, remove such items before installing or removing ribbons.

B. Loading Ribbon into the Printer

Follow these steps to load ribbon into the Printer:

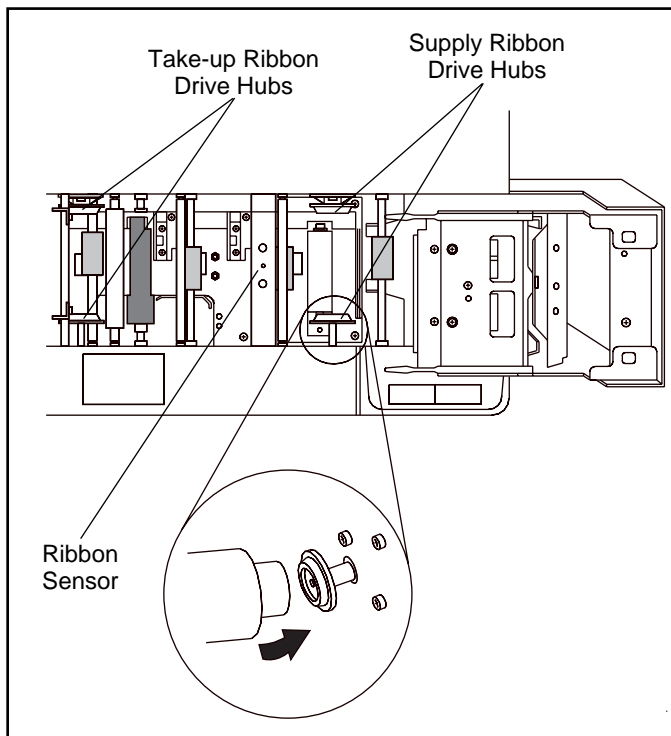
1. Remove the ribbon from its packaging. Do not touch the colored portion of the ribbon. Oil or dirt from your hands can impair print quality.

2. The supply end of the ribbon is the side with the fresh, unused ribbon on it. The ribbon take-up is the other end.



3. Open the top-right cover of the printer by pressing its Cover Release Button. Allow the cover to swing up and open.

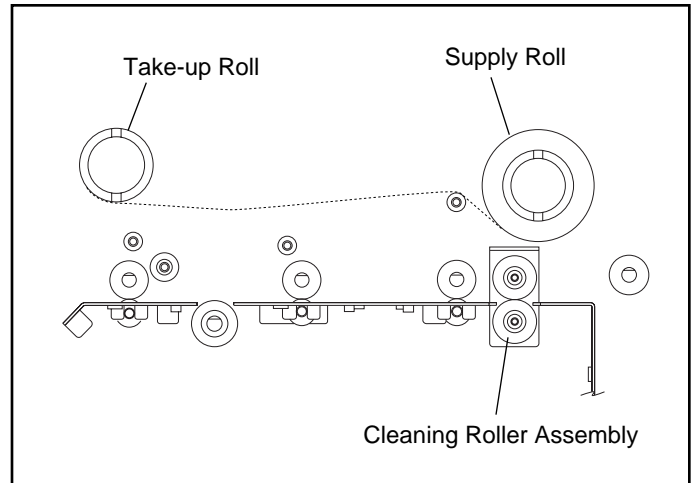
4. With the cover open, place the supply end of the ribbon in between the two black Ribbon Drive Hubs located on the far right-hand side of the printer's interior. Make certain that the ribbon is fed from **underneath** the ribbon roll. (*Hint: The Ribbon Drive Hub nearest you, as you are looking into the printer from the front, is spring loaded. Use the end of the ribbon supply core to push in this Ribbon Drive Hub when inserting the ribbon.*)



5. Place the take-up end of the ribbon roll in between the two black Ribbon Drive Hubs located about six inches (152mm) to the left of the ribbon supply Ribbon Drive Hubs. Load the ribbon take-up end of the ribbon just as you loaded the ribbon supply end in step 4. When loaded properly, the ribbon should feed underneath both ends of the ribbon roll.

IMPORTANT!

C. About Cards



6. Close the cover. When you start to print, the Ribbon Drive Hubs will automatically engage the notches on both cores of the ribbon roll.

Do not reverse the ribbon. Damage may occur to the thermal printhead!

The Color ID Card Printer accepts a variety of different card sizes and thicknesses and will print to any card with a clean, level, polished PVC surface (see Section 11 for accepted card size specifications). The printer can also print onto smart cards, but one must be careful not to print or place a clear overlay over the area containing the actual IC chip. Printing over this area could damage both the IC chip and the printer's printhead. To avoid printing over this area, select the **Smart Card** option from the printer driver setup (see Section 7-B for printer driver information).

Although the Color ID Card Printer is equipped with a card cleaning roller, it is very important to always print onto cards specifically designed for direct-to-card dye-sublimation printing. Such cards must have a polished PVC surface free of fingerprints, dust, and any other types of embedded contaminants. In addition, these cards must have a completely smooth and level surface in order for the printer to achieve consistent color coverage (many brands of Proximity cards have an uneven surface which can inhibit consistent color transfer). For information on cards suitable for direct-to-card dye-sublimation printing, contact your authorized Color ID Card Printer dealer or the printer manufacturer.

Never run cards with a contaminated, dull, or uneven surface through the printer. Printing onto such cards will ultimately lead to poor print quality and will greatly reduce the life of your printhead. In addition, always store your card stock in its original packaging or in a clean, dust-free environment. Do not print onto cards which have been dropped or soiled. **Printheads damaged by contaminated or poor quality cards will automatically void the printhead's factory warranty.**

NOTES

1. Some card stocks, particularly 10 mil card stocks, are surfaced with a thin coating of a talcum based lubricant. This lubricant is intended to keep the cards from sticking to one another, however, the dusty nature of the lubricant will greatly inhibit print quality and may even damage the printer. Do not print onto these types of cards.

2. Avoid using card stock which has a signature pad on the back side of the card. A signature pad will often leave a residue on the top of the card stacked beneath it. This residue will discolor the card's surface when printed. If a card signature is required, use cards with a matte finish on the reverse side and a polished PVC finish on top. Signatures can be applied to the matte finished side with a permanent ink pen after printing.

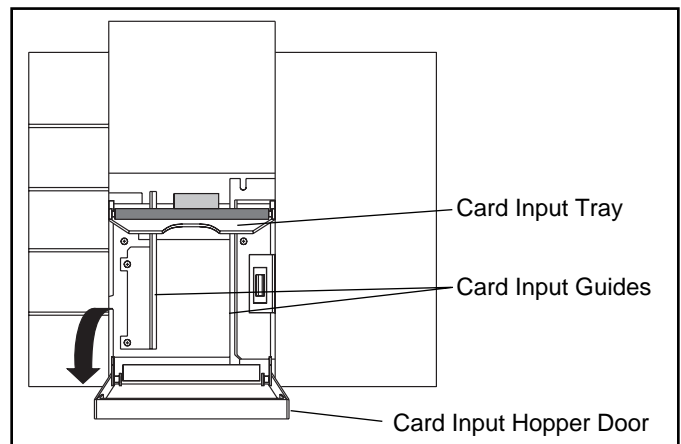
3. If printing onto cards with a pre-punched slot, do not print over the area of the card with the punched slot. Printing over this uneven area could damage the printhead. To avoid this area when printing in portrait orientation, select the Punch card size option from within your printer driver setup (see Section 7-B for printer driver information). When selected, this option allows your printer to print up to but not over the punched area of the card. This option does not apply to pre-punched cards intended to be printed and worn in landscape orientation. If you need to print over the entire area of the card, punch the slot after the card has printed.

D. Loading Cards into the Printer

The Color ID Card Printer will hold a maximum of 100 cards (based on a standard CR-80 card size) in its Card Hopper. The Printer automatically feeds each card and adjusts to each card's particular size and thickness. Significantly larger or thicker cards, however, may require slight printer adjustments for consistent printing. See Section 9 for details on such adjustments. To load the cards into the printer, refer to the following steps:

1. Remove a stack of 100 or fewer cards from the card packaging. Do not touch the area of the card where you intend to print. Oil or dirt from your hands can impair print quality.
2. Open the Card Hopper Door located on the right-hand side of the printer's exterior by grasping the top of the door and pulling down. Allow the door to swing completely open.
3. Insert the stack of cards into the printer by depressing the spring loaded Card Input Tray and placing the cards between the Card Input Guides (see Section 9 for further Card Input Guide information). Always load cards with the top or primary print side facing up. **If inserting cards with a magnetic stripe**, be sure that the magnetic stripe is positioned downward and that the stripe is oriented toward the rear of the printer. **If inserting smart cards or cards with a pre-punched slot**, be sure the smart card chip is positioned upward and that the chip or slotted end of the card is inserted first.

4. Once the cards have been inserted, remove the top card and throw it away if you suspect it has been contaminated with oil from your fingertips. Close the Card Hopper Door. The cards will automatically feed off the top of the stack.



NOTE

The printer's 100 card capacity is figured using a standard CR-80 3.375" L x 2.125" W x .030" (85.6mm L x 54.0mm W) card size. Please be aware of this when inserting cards of varying thicknesses.

A. About the Printer's Laminator

In addition to printing and applying the standard clear overlay included on the Color ID Card Printer's various ribbons, the printer also provides a built-in lamination system for applying a more secure, tamper-resistant overlaminates. This built-in laminator is controlled by both the printer itself and the printer's software driver.

Upon initial power up of the printer, you will notice that the Laminator LED indicator light on the front of the printer will flash. This indicates that the laminator is heating up to its preset, or default laminating temperature of approximately 300° F (150° C). This heating process will generally take about 5 minutes before the laminator is heated to the default temperature. Once the laminator reaches its default temperature, the Laminator LED light will stop flashing and will remain solid. The Laminator LED light will flash only when the laminator is heating up or cooling down to the prescribed temperature.

If you wish to change the temperature of the laminator, you can adjust its temperature through the Lamination controls within the printer driver setup window (see Section 7-B). Once adjusted, the new temperature settings will be sent down with the next print job along with the rest of the printer driver information. Before printing begins, the Laminator light will flash and the laminator will automatically adjust itself to the new temperature setting. This new temperature setting will remain programmed within the printer until it is once again changed within the printer driver or until the printer is turned OFF. Whenever the printer is turned OFF, the laminator will automatically reset itself and return to its default temperature the next time the printer is powered ON. Pressing the on/cancel button serves this same purpose in that it will also reset the laminator to its default temperature. The temperature setting within the printer driver, however, will stay the same until you change it.

CAUTION!



THE PRINTER'S LAMINATION ROLLER CAN REACH TEMPERATURES EXCEEDING 350° F (175° C). USE EXTREME CAUTION WHEN OPERATING THE LAMINATOR. NEVER TOUCH THE LAMINATION ROLLER UNLESS THE PRINTER POWER HAS BEEN TURNED OFF FOR AT LEAST 20-30 MINUTES!

5

Card Laminating

B. About Overlaminates

The Color ID Card Printer's internal lamination system allows you to choose between either a thermal transfer film overlaminate or a polyester chip overlaminate called PolyGuard™. These two unique overlaminates are available in two specific designs. The film overlaminate is available as simply a clear material or with a generic, preprinted holographic-type design and is approximately 2 microns thick.

PolyGuard, which is approximately 1 mil (.001") thick, is available in these same designs but provides for greater durability than the thermal film overlaminate. PolyGuard should always be used if you need ID cards with the highest degree of durability and security.

If you require custom thermal transfer film or PolyGuard overlaminate designs, please contact your reseller or the printer manufacturer for more information.

IMPORTANT!

*If using the thermal transfer film overlaminate, you must use it in conjunction with a ribbon which provides a clear overlay panel. When used with this type of ribbon, the printer will apply the clear overlay panel of the ribbon over the film lamination layer of a printed card. This process is required for maximizing card durability when laminating with the thermal transfer film material. The ribbon types which do not provide an overlay panel or support overlay printing are **Monochrome Resin** and **5 Color Resin black**. Avoid using these types of ribbons in conjunction with the thermal transfer film material. These ribbon types are ideal, however, when laminating with PolyGuard.*

C. Loading the Overlamine into the Printer

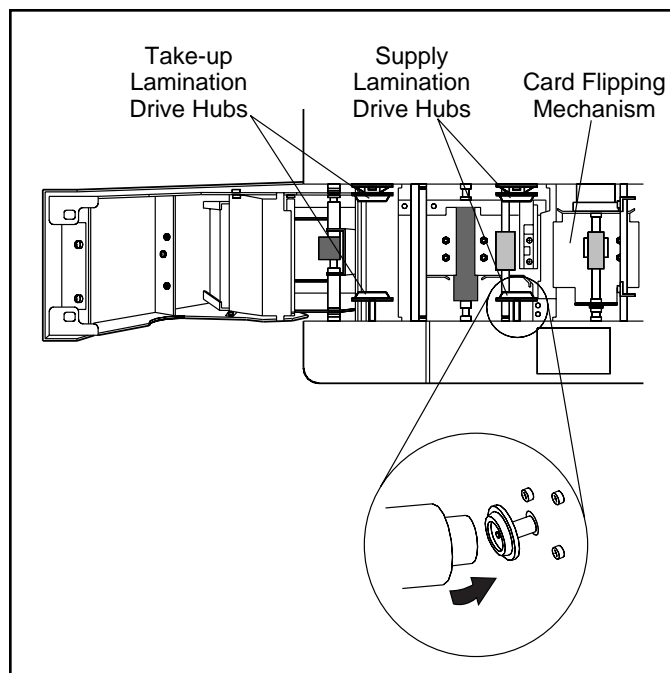
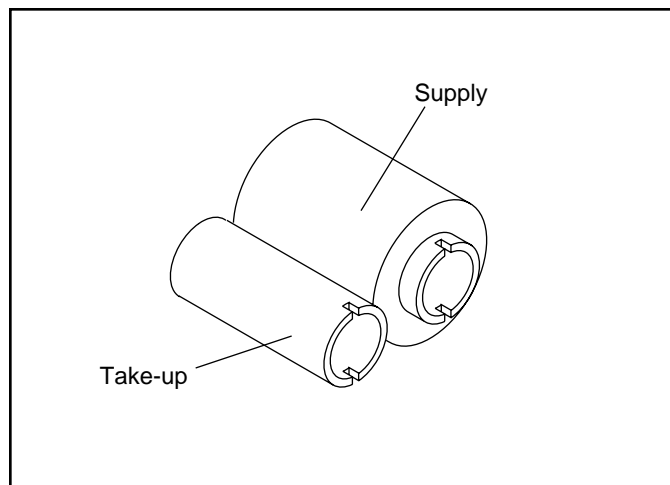
CAUTION!



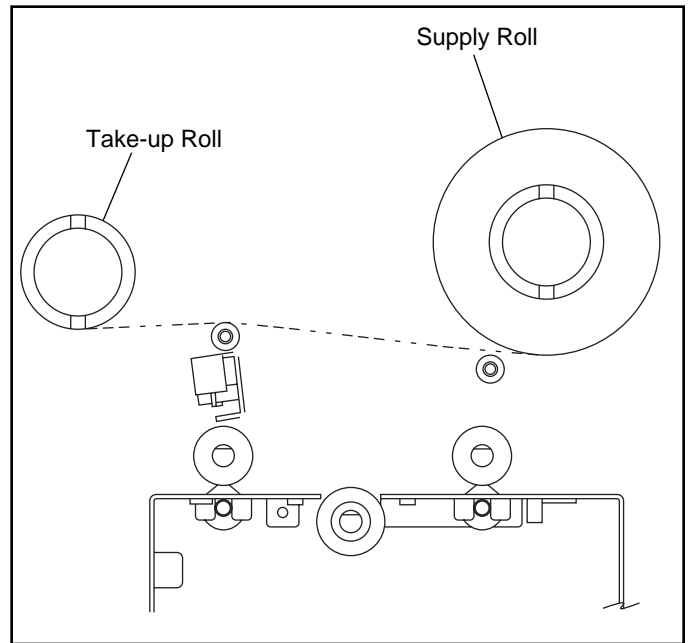
The loading process for both the thermal transfer film and the PolyGuard overlamine material is the same. Refer to the following steps to load either type of overlamine into the Printer.

DO NOT TOUCH THE METAL LAMINATION SHIELD OR THE LAMINATION ROLLER WHEN LOADING OVERLAMINE. YOU WILL BURN YOURSELF!

1. Remove the overlamine from its packaging.
2. The supply end of the overlamine roll is the side containing the fresh, unused portion of the overlamine. The take-up end is the other side.
3. Open the top-left cover of the printer by pressing its Cover Release Button. Allow the cover to swing up and open.
4. With the cover open, place the supply end of the overlamine roll in between the two black Lamination Drive Hubs located just to the left of the printer's card flipping mechanism. Make certain that the overlamine material is fed from **underneath** the roll. (*Hint: The Lamination Drive Hub nearest you, as you are looking into the printer from the front, is spring loaded. Use the end of the roll's supply core to push in this hub when inserting the overlamine roll.*)



5. Place the take-up end of the roll in between the two black Lamination Drive Hubs located on the far left-hand side of the printer's interior. Load the take-up end of the roll just as you loaded the supply end in step 4. When loaded properly, the overlamine material should feed underneath both ends of the overlamine roll.



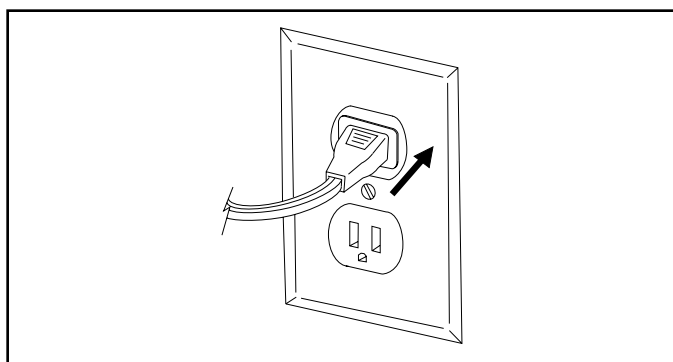
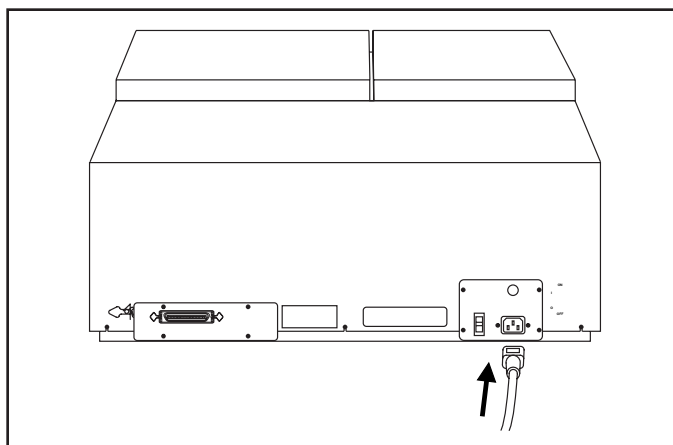
6. Close the cover. When you start to print, the Lamination Drive Hubs will automatically engage the notches on both cores of the overlamine roll.

IMPORTANT!

Do not reverse the overlamine roll. Damage may occur to the lamination roller!

A. Applying Power

1. Locate the power cord supplied with your printer.
2. With the printer's power switch turned OFF, place one end of the power cord into the power port on the rear panel of the printer.
3. Place the other end of the power cord into an available wall outlet.
4. Once the power cord is connected, turn the power switch located on the rear panel of the printer to its ON position.



B. Running the Self Test

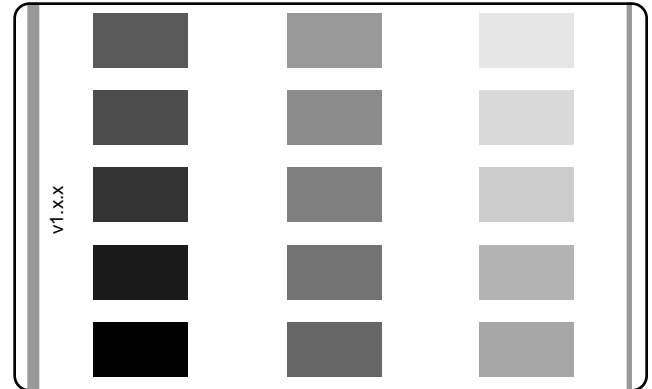
A self test should now be performed to check for proper operation of the printer. The standard self test function requires only that a full-color ribbon and at least one card is installed. The standard self test function prints onto both sides of a card but does not utilize any of the printer's overlay capabilities. If printing with a full-color ribbon with a resin black panel, most rectangles on the back side of the self test card will appear as solid black. A sample of the self test pattern is shown on the following page.

1. If power is ON, turn it OFF now by pressing the on/cancel button. The LED indicator lights should no longer be illuminated. Verify that a full-color ribbon is installed and that cards are properly loaded.
2. Press and hold the on-line button.
3. While holding the on-line button down, turn the printer power back ON by quickly pressing and releasing the on/cancel button.
4. Release the on-line button. The gray scale self test will begin printing approximately 5 seconds after the on-line button has been released.

6

Hooking Up the Printer

Self Test Example: (Actual size)

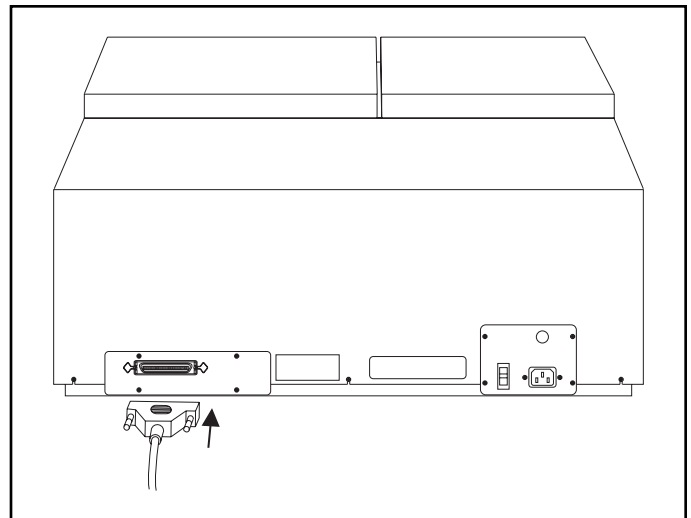


C. Connecting the Color ID Card Printer to Your Computer

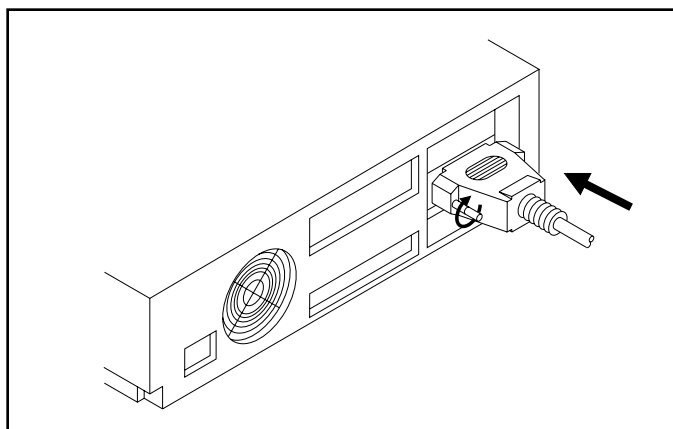
The Color ID Card Printer is designed to be used with nearly any IBM-PC or compatible running Windows 3.1x or Windows 95. A minimum of a 486 DX class computer with 4MB RAM or higher is required. For best performance, a Pentium™ class computer with 8 MB RAM or higher is recommended.

The printer is equipped with an ECP-compatible, high-speed Centronics parallel port. This port is the means through which the printer receives data from your computer. To connect the printer to your computer, obtain a shielded, bi-directional parallel cable and refer to the following steps:

1. Connect the Centronics-type parallel side to the printer. Snap the fastening clips into place.



2. Connect the other side to the back of your PC at the PARALLEL connector.



3. The printer must have its on-line light illuminated to receive data. If the light is not ON, press the on-line button.

4. If the on-line light is flashing, check for a card mis-feed or jam and correct according to Section 8. Press the on-line button to resume operation.

7

Installing and Using the Color ID Card Printer Driver

A. Installing the Windows Printer Driver

The Color ID Card Printer can be used with virtually any Microsoft Windows 3.1x or Windows 95 software application program. Before printing, you must tell the application that you're using the Color ID Card Printer. This is accomplished the first time you use the printer by installing in Windows what is called a "printer driver." The printer driver is simply a diskette with software on it that gives the printer the proper commands it needs in order to print. After you've installed the driver, put the driver diskette away in a safe place for possible future use.

NOTE

This section of the Operator's Manual assumes that you are already familiar with Windows and know how it operates. If you are not yet familiar with Windows, consult the appropriate Microsoft documentation to become familiar with the basics of Windows before proceeding.

Windows 95

To install the printer driver into Windows 95, refer to the following:

1. Insert the printer driver diskette into your computer's disk drive.
2. Click the **Start** button, point to **Settings**, and select **Printers**.



3. Double-click on the **Add Printer** icon.



4. Follow the on-screen instructions to complete installation. When prompted, do not have Windows print a test print, since you most likely performed a printer self test in Section 6. Once installed, the "Color ID Card II" printer icon will appear in the Printers folder.



NOTE

Before installing updated printer driver versions, always delete the existing printer driver version from your system. To do this, simply select the printer driver from within the Printers folder, and press the Delete key.

Windows 3.1x

To install the printer driver into Windows 3.1x, refer to the following:

1. After starting Windows, go to the Main program group and select **Control Panel**.
2. From the Control Panel, select **Printers**.
3. Select **Use Print Manager** from the bottom left of the Printers window.
4. Select the **Add>>** button.
5. Highlight the **Install Unlisted or Updated Printer** option from List of Printers.
6. Select the **Install** button.
7. Insert the supplied Printer Driver diskette into your computer's disk drive. If you insert the diskette in a drive other than the A: drive displayed in the Install Driver dialog box, you must change the drive designation. Select the **OK** button.
8. "Color ID Card II" should now be listed in the Add Unlisted or Updated Printer dialog box. Select the **OK** button. Your PC's disk drive will now load the printer driver. Depending upon your computer, loading will take about 10 to 20 seconds.
9. Select the **Set As Default Printer** button in the Printers window. The Color ID Card Printer has now been selected as your default (main) printer. If you wish to use another printer later, you must de-select the Color ID Card Printer and switch back to the other printer's driver.

B. Installing the 32-Bit Print Spooler for Windows 95

10. Finally, select the **Connect** button. Check that the box called **Fast Printing Direct to Port** is selected. Although this option is not necessary, it helps optimize printer driver speed and performance. Select **OK** to exit the Connect window. Select **Close** to exit the Printers window.

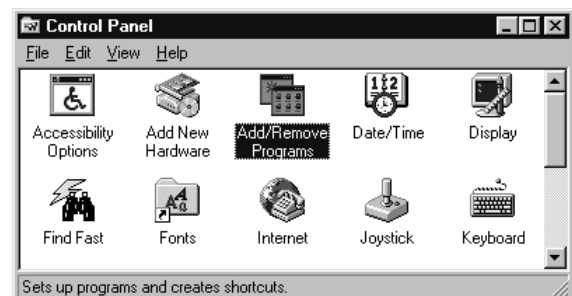
Your Color ID Card Printer ships with a print utility program called the 32-Bit Print Spooler. This print spooler is for use only with Windows 95. Once installed, the print spooler is able to process your print jobs and send them to the printer at consistently faster speeds than if sending print jobs through the Windows 95 print spooler. This is especially true if printing with an ECP compatible parallel port or if printing off a network. The 32-Bit Print Spooler is ideal for printing a large number of consecutive ID cards, for printing larger file formats (1 MB or more), or if printing on a somewhat slower computer.

The 32-Bit Print Spooler installs just like any other standard Windows application program. To install the 32-Bit Print Spooler, refer to the following:

- 1.** Insert the 32-Bit Print Spooler diskette into your computer's disk drive.
- 2.** Click the **Start** button, point to **Settings**, and select **Control Panel**.



- 3.** Double-click on the **Add/Remove Programs** icon.



4. Follow the on-screen instructions to complete installation. When installed, the 32-Bit Print Spooler will appear in the Programs group of the Start menu.



32-Bit Print Spooler

NOTE

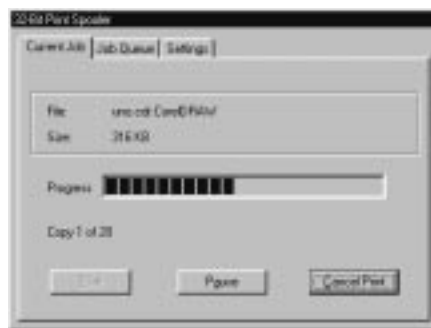
*Before installing updated 32-Bit Print Spooler versions, always uninstall the existing print spooler version from your system. To do this, simply select 32-Bit Print Spooler from the list of programs in the Add/Remove Programs Properties window and click on the **Add/Remove** button.*

To print with the 32-Bit Print Spooler, you must select the **Fast 32-bit Spooler** option from within the printer driver setup window as described in section C. When this option is selected, the print spooler will automatically open and close with the start and finish of each print job.

NOTE

You can also manually open the 32-Bit Print Spooler simply by selecting its icon from the Programs group of the Start menu.

When the 32-Bit Print Spooler is running, its icon will appear in the Windows 95 Task Bar. During a print job, it is sometimes helpful to click on this icon to bring the 32-Bit Print Spooler status window to the foreground of your application. This window provides a number of details about the print jobs being sent to the Color ID Card Printer.



The **Current Job** tab tells you the name and size of the file printing, the progress of the overall print job, as well as the total number of copies left to print. It also provides buttons which allow you to pause or cancel the print job at any time during the printing process.

The **Settings** tab tells you the port and printer to which you are printing and also allows you to configure the timeout setting. In most instances, the settings under this tab rarely need to be changed.

C. Setting Up the Windows Printer Driver

The **Job Queue** tab appears only when a print job is being sent to the printer. This tab tells you the name and status of each job in the queue and shows you the order in which the jobs will print if you have sent multiple jobs to the printer. A control button is also provided which allows you to delete every job listed in the queue. To delete the job currently being printed, simply select the Cancel Print button under the Current Job tab.

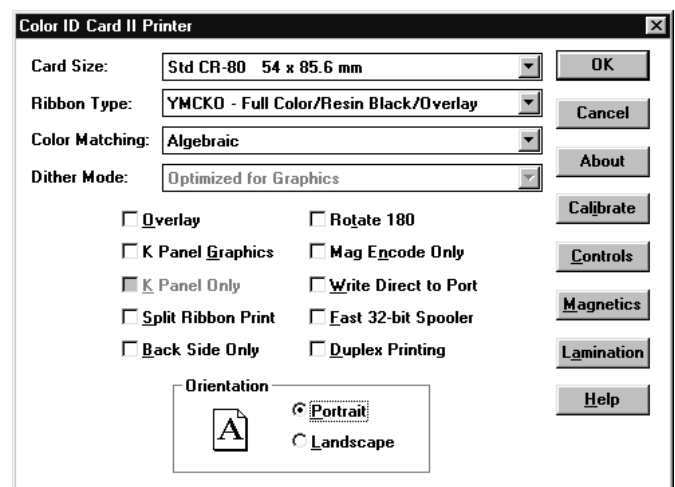
Once the printer driver has been successfully installed, you will need to set the driver up for the particular card size and type of ribbon you have installed in the printer. There are also several additional options that can be selected. Use the following steps to select the appropriate printer driver settings:

1. If using Windows 3.1x, go back to the Control Panel and the Printers group using steps 1 and 2 on pages 27 and 28. If using Windows 95, Click the **Start** button, point to **Settings**, and select **Printers**. Then, click on the **Color ID Card II** icon with the right mouse button and select **Properties**. The Properties window will appear.
2. In Windows 3.1x, select the Setup button. In Windows 95, click on the Details tab of the Properties window and select the Setup button.

NOTE

Some applications allow you to change these same printer driver options from their "Print" and/or "Printer Setup" screens. This means that you don't have to go back to the main printer setup window each time you want to change a setting or option in the printer driver. These applications will usually give you the same choices and options, but in a slightly altered format.

3. The Color ID Card II Printer screen appears. Change the options as follows:



Card Size

Click on the Card Size down arrow. A list of card size selections will appear. The **Std CR-80** and **Oversize** selections allow you to print and overlay the entire printable area of a standard or oversized card. Keep in mind that all card sizes have a slight non-printable margin around the entire edge of the card. The **Smart Card, Magstripe, and Punch Offset** selections allow you to print and overlay only within the given card areas. The **Smart Chip** selection allows you to print and overlay anywhere on a card except over the immediate location of a standard smart card chip. These selections prevent you from printing over or damaging the area of the card containing the magnetic stripe, IC chip, or punched slot.

The **Dual Side: CR-80/Magstripe** selection should be selected only when printing onto both sides of a standard CR-80 card which has a magnetic stripe on the back. This option allows you to print and overlay the entire front of a card while applying an overlay only onto the area opposite the magnetic stripe on the back of a card. This prevents the magnetic stripe from being damaged. Although this options prevents the overlay from being applied to the magnetic stripe area of a card, it is still possible to print text or images over the magnetic stripe. Therefore, when designing the back of your card format, you must be careful not to place any printable objects over the magnetic stripe area of the card. Note that the **Duplex Printing** option must be selected to print onto both sides of a card.

The **JIS II Magstripe Side** option should be selected only when printing onto cards with a Japanese standard JIS II magnetic stripe. Select the card size option that's appropriate for the type of card you are using (see Section 4-C for important card stock information).

Ribbon Type

Click on the **Ribbon Type** down arrow. A list of ribbon selections will appear. Select the ribbon type option that's appropriate for the type of ribbon you are using (see Section 4-A for further ribbon information).

Color Matching

Click on the Color Matching down arrow and select the appropriate color matching option. Select **None** if you are more interested in print speed rather than print color, if you have already color corrected your image for printing, or if you are using some other third party color matching software.

Select **Algebraic** if you would like the printer driver to make very simple, yet fast, color balance adjustments. This option gives you more natural looking images without actually utilizing any specific color matching software and without slowing down the processing speed of the printer driver. When selected, this color matching method can be customized by selecting the **Controls** button.

The **FargoColor™** option is only available when the printer's optional color matching software upgrade has been installed. Select this option to enable color matching profiles written specifically for your printer. The **FargoColor** option automatically adjusts the color of your image according to preconfigured printer profiles and default system profiles. This results in a very precise color match compliant with ICC standards. Please note that since the FargoColor option is intended to match photographic color *hues* as closely as possible, you may notice that some colors may appear slightly muted when printing simple spot colors.

Dither Mode

This option only effects objects printed with a monochrome resin ribbon type or those objects printed with the monochrome resin panel of a full-color ribbon. Click on the Dither Mode down arrow and select the appropriate dither method according to the type of image you are printing.

Overlay

This option is only applicable if you are using a ribbon with a clear overlay panel. If using such a ribbon, select this option to enable the printer to place a clear overlay over the entire printable area of the given card size. Do not select this option, however, if you are not using a ribbon with a clear overlay panel or if you intend to apply a separate overlamine to the card. Remember that all dye-sublimation prints must have either the ribbon's overlay or a separate overlamine applied to them to prevent premature wear or fading.

K Panel Graphics

In most application programs, when printing with a Full-Color YMCKO ribbon, the Color ID Card Printer driver prints all bitmapped images with the ribbon's yellow, magenta, and cyan color panels (YMC). Any black contained in these bitmapped images is printed by combining equal amounts of yellow, magenta, and cyan. This type of black is called a "composite" black. The resin black (K) panel of the ribbon is only used when printing TrueType black text and TrueType bar codes.

The printer driver distinguishes between text and image objects in order for TrueType black text and bar codes to always be printed with a true resin black. Resin black is essential when printing bar codes, since only resin black bar codes can be read by both infra-red and visible light bar code scanners. Composite or dye-sublimation black bar codes can only be read by visible light bar code scanners.

In some cases, however, this print method may not be acceptable. If, for example, you are printing bar codes which are not TrueType bar codes but rather bitmapped bar codes, such bar codes will be printed as a composite black (i.e., with the YMC panels only). In addition, when printing from certain application programs, the printer driver is also forced to print all objects, even black text or bar codes, with the yellow, magenta, and cyan color panels. This happens because some application programs interpret both text and image objects as bitmapped images.

If your particular application program does not differentiate between TrueType text and image objects or if you are printing bitmapped bar codes, select the **K Panel Graphics** print option. ***This option forces the printer driver to print all of the black within text, bar codes, or bitmapped images with all four of the ribbon's YMCK panels.***

K Panel Only

This option is only active when the **K Panel Graphics** option is selected. When the **K Panel Only** option is selected, all of the black within text, bar codes, or bitmapped images will be printed only with the ribbon's resin black (K) panel (i.e., without the YMC composite black underneath). Selecting this option increases the precision of printed bitmapped bar codes, thereby assuring greater accuracy when read by a bar code scanner.

Split Ribbon Print

Select this option to automatically print full-color on the front of a card and monochrome on the back of a card using a standard Full-Color YMCKO ribbon. This option allows the printer to print the front of a card with the ribbon's yellow, magenta, and cyan (YMC) panels and the back of a card with the ribbon's black (K) panel. The ribbon's clear overlay is applied last to the card's front side. Selecting this option provides the most economical means of printing a dual-sided card with overlay, since you avoid wasting an entirely new set of ribbon panels just to print the monochrome back side. Note that the **Duplex Printing** option is automatically enabled when this option is selected.

Back Side Only

Select this option to print the back side of a card only. This option allows you to conveniently print the back side of preprinted cards which also must have their magnetic stripe or smart card chip encoded. Be sure to load cards in the usual fashion as described in Section 4-D. Note that when this option is selected, the **Duplex Printing** option is automatically disabled.

Rotate 180°

This option allows you to rotate your image 180° when printed. Select this option if you wish to change the position of your image in relation to the set location of a card's magnetic stripe.

Mag Encode Only

Select this option if you wish to send only the magnetic track data of a card format to the printer. This unique feature enables the Color ID Card Printer to function solely as a magnetic stripe encoder so you can easily encode or re-encode preprinted cards without wasting additional time, effort, or printing supplies.

Write Direct to Port

Selecting this option provides the fastest print processing when printing through a standard parallel port which is not ECP compatible or when printing exclusively from Windows 3.1x. When selected, this option allows the printer driver to bypass the Windows 3.1x Print Manager or the print spooler of Windows 95 and to send all print data directly to the Color ID Card Printer. This option devotes all of your system resources to the current print job, thereby increasing overall print speed. When the print job is finished, your system resources will again be released and devoted to the normal function of your on-screen applications.

Depending upon the processing speed and brand of your computer, you may or may not need to select this option when printing with the Color ID Card Printer. For most computers with a non-ECP compatible parallel port, selecting this option will enhance the speed of the rasterizing and printing process. In this case, the **Write Direct to Port** option should be selected. For some computers, however, this option may either not be supported by the particular brand of PC or simply may not be necessary due to the PC's fast processing speed. In this case, the **Write Direct to Port** option should not be selected.

NOTE

This option will not function properly if using any type of external printer buffer. When using a printer buffer, all print jobs should be sent through the system print

spooler or through the Color ID Card Printer's 32-Bit Print Spooler for Windows 95.

Fast 32-bit Spooler

Select this option for consistently faster print processing. This option is only selectable if operating under Windows 95 and if the included 32-Bit Print Spooler software has been installed. When selected, this option allows the printer driver to send all print jobs to the Color ID Card Printer's 32-Bit Print Spooler rather than to the Windows 95 print spooler. See section B for complete details on the 32-Bit Print Spooler. This option and the 32-Bit Print Spooler software will not function in Windows 3.1x.

Duplex Printing

Select this option to automatically print on both the front and back side of a card. This option can be selected in conjunction with any application program which supports a multiple page document. In other words, your program must be able to send down two or more separate pages to be printed within the same document.

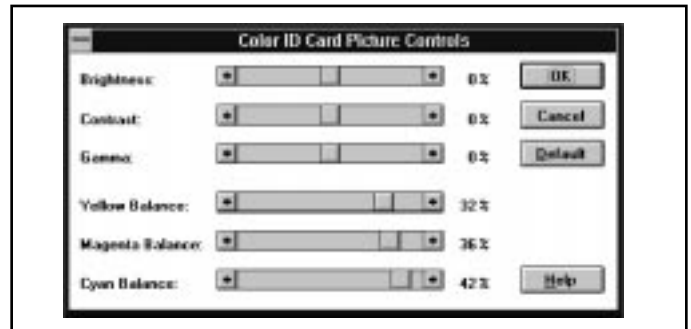
For example, if you would like to print a full color ID format on the front of your card and monochrome text or bar codes on the back, you would simply create the full color front side of the card on page 1 of your document and the monochrome back side on page 2. The printer driver will always place all odd numbered pages on the front side of the card and all even numbered pages on the back side.

Orientation

Select either **Portrait** or **Landscape**. Selecting **Portrait** causes the card to print in a vertical orientation. Selecting **Landscape** causes the card to print in a horizontal orientation. An icon illustrating a printed card helps represent the difference between the two.

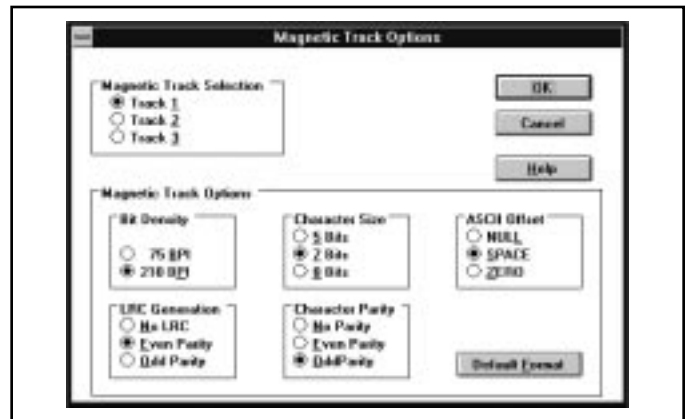
Controls

Select this button to display options for controlling a printed card's Brightness, Contrast, or Gamma, as well as for controlling the card's individual color balance for Yellow, Magenta, and Cyan. Select the **Default** button to return all control options to the original settings. When the Algebraic color matching option is selected, all control options will display and can be adjusted. When the None or FargoColor color matching options are selected, only the Brightness (Heat) option will display.



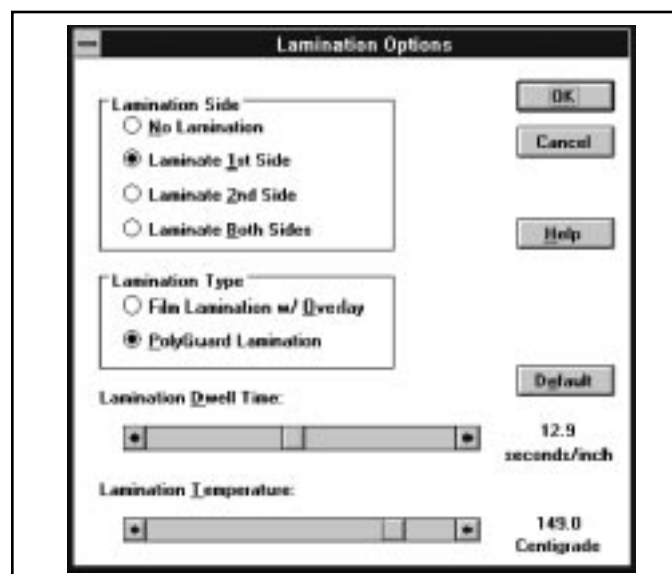
Magnetics

When magnetically encoding a card with the Color ID Card Printer, the ISO standards for magnetic encoding will automatically be used. These standard settings will suffice for most encoding applications and rarely need to be modified. If modification is necessary, however, please see Appendix A for more information on the printer's magnetic encoding process.



Lamination

Select this button to display options for controlling the printer's lamination process. When the **No Lamination** option is selected, the printer's built-in laminator will not be used. When using the laminator, select from these options to choose the card side(s) you would like to laminate or to select the Lamination Type according to the overlamine material you currently have installed. In addition, you can also select the Lamination Dwell Time or through-put speed of a card in seconds/inch as well as the Lamination Temperature. The default settings for the Lamination Dwell Time and Lamination Temperature should be accurate for most card stocks and overlamine types. See Section 5 for more information on the printer's lamination process.



IMPORTANT!

If you select the Film Lamination w/ Overlay option, you must be using a ribbon which provides a clear overlay panel. When used with this type of ribbon, the printer will apply the clear overlay panel of the ribbon over the film lamination layer of a printed card. This process is required for maximizing card durability when laminating with the thermal transfer film material. The ribbon types which do not provide an overlay panel or support overlay printing are Monochrome Resin and 5 Color, Resin Black. Avoid using these types of ribbons in conjunction with the thermal transfer film material.

*Selecting the printer driver's standard **Overlay** option forces the printer to automatically place the ribbon's clear overlay panel onto whichever side or sides of the card you are printing. The **Film Lamination w/ Overlay** option overrides the standard **Overlay** option for the card's laminated side only, forcing the printer to place the ribbon's clear overlay on top of the film overlamine rather than beneath it.*

*For example, if you are printing onto both sides of a card and you have both the **Overlay** and the **Film Lamination w/ Overlay** options selected, the ribbon's clear overlay panel will be placed on top of the film laminated side as well as over the printed reverse side. As a rule, do not select the standard **Overlay** option in conjunction with the **Film Lamination w/ Overlay** option if you do not wish to place the ribbon's clear overlay onto the printed, non-laminated back side of a card.*

4. After your selections have been made, close out of the printer setup window. You are now ready to go to an application program and print. All printer driver options selected will stay the same until you change them.

D. Printing a Card

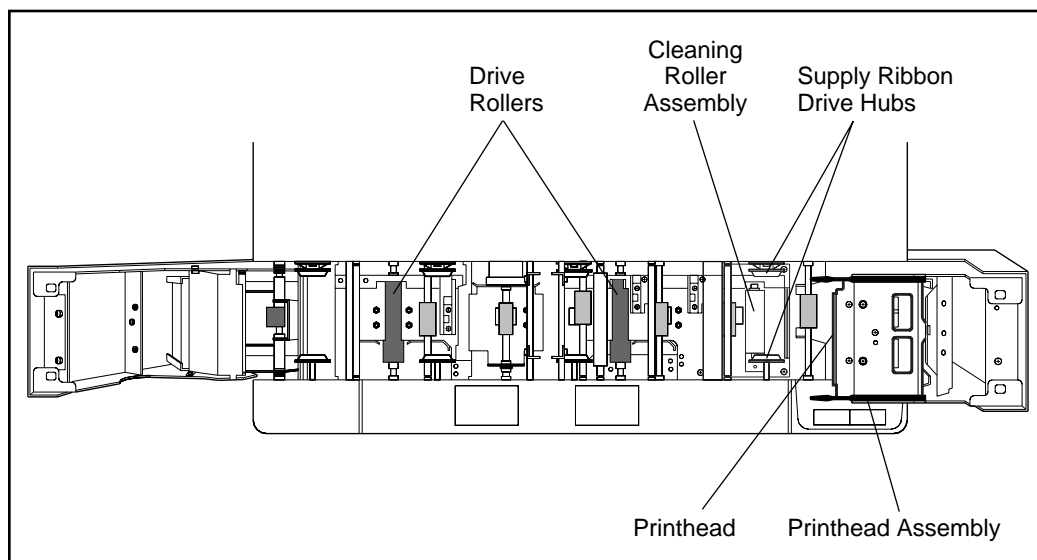
Now that you've set up the printer, loaded media, and installed the printer driver, you're ready to print an ID card. Follow these steps to print your first card:

1. Go to the Windows application program in which you will be creating your cards and open or create a card format.
2. Once you are ready to print, select **Print Setup** (or the equivalent) from the program's File menu to verify that the printer driver settings are correct for your card design. Remember to select the proper card size and ribbon type and, if applicable, to verify that the proper magnetic and/or lamination settings are selected. After you've properly configured the driver, select the **Print** button from the application's Print screen.
3. The Color ID Card Printer's RIP (raster image processing) begins. The image processing time will vary depending upon the complexity of the image and the processing speed of your computer.
4. After the image is processed and sent to the printer, the printer will draw in a card and print the first color (yellow), followed by the remaining colors (magenta, cyan, and black). If using a ribbon with a clear overlay, the clear overlay panel will print immediately after the last color panel. If printing onto the back side of a card, encoding, or applying an overlamine, the printer will finish these functions last and then eject the card.
5. If everything looks good, you've successfully completed set-up, initial testing, and printing with your Color ID Card Printer.

8

Maintenance

Your Color ID Card Printer is built to require a minimum of maintenance. Nevertheless, there are a few procedures you can perform on a regular basis or as needed to ensure the best possible performance. Use the illustration at the top of this page to locate the items discussed within this section.



A. Supplies Required

For the maintenance procedures outlined in this section, you will need the following items:

- Isopropyl alcohol
- Acetone
- Standard clear adhesive tape or masking tape
- Soft, lint-free cloth

Or, to make these maintenance procedures more convenient, a Printer Cleaning Kit is available from your reseller or from the printer manufacturer. This optional kit includes the following:

- **Printhead Cleaning Pens** pre-moistened with 99.99% isopropyl alcohol for cleaning your printer's printhead.
- **Cleaning Cards** with an adhesive backing for automatically cleaning your printer's gray card feed rollers and cleaning rollers.
- **Cleaning Pads** pre-moistened with 99.99% isopropyl alcohol for cleaning your printer's drive roller and general inside area.

IMPORTANT!

1. *Never use a sharp tool or abrasive object of any kind to clean the printhead. You will damage the printhead!*
2. *Watches, rings, bracelets, and other jewelry can damage the printhead if accidentally bumped against it. For best results, remove such items before touching any internal components of printer.*
3. *Internal components of the printer, such as the printhead, may be damaged if exposed to static electrical discharges generated by various means, such as walking on a carpeted floor. To avoid potential damage, always wear an appropriate personal grounding device, such as*

a wrist strap (with integral resistor) connected to an ESD ground. Or, at a minimum, make positive contact with the bare metal chassis of the printer with your hand prior to touching any internal electrical components.

B. Standard Printhead Cleaning

This procedure should be performed if you notice a streak on the card where color was not transferred. This procedure should also be performed during every ribbon change or after every 250 prints in order to maintain consistent print quality. The printhead is located near the center of the opened top cover assembly.

1. Open the printer's top-right cover by pressing its Cover Release Button.
2. If you observe dust and/or other particles laying on the top surface of the ribbon, manually roll it up into the take-up roll. Occasionally, dust may settle on the top surface of the ribbon and cause print quality problems.
3. Use a Printhead Cleaning Pen from the Printer Cleaning Kit or a soft, lint-free cloth ***slightly*** moistened with isopropyl alcohol to wipe dust and other accumulated particles off the surface of the printhead. If using a cloth, be extremely careful not to use too much alcohol. It must not be allowed to drip into the printer!
4. Once the printhead is completely dry, shut the cover. If a streak persists, perform the steps in section C.

C. Expanded Printhead Cleaning

Perform if you have a streak on the printed output that can't be solved by the Standard Printhead Cleaning procedure. To maintain your printer's high quality of printing, this procedure should also be performed approximately every 2,500 prints as part of the printer's general maintenance program.

1. Open the printer's top-right cover by pressing its Cover Release Button.
2. Use a soft, lint-free cloth ***slightly*** moistened with acetone to wipe off the surface of the printhead. Be extremely careful not to use too much acetone. It must not be allowed to drip into the printer!

CAUTION!

ACETONE IS A VERY POWERFUL SOLVENT. DO NOT APPLY ACETONE TO ANY OTHER AREA OF THE PRINTER, SINCE IT WILL DESTROY THE FINISH OF PAINT, RUBBER, AND PLASTIC.

3. Allow the printhead to thoroughly dry before closing the cover.
4. Shut the cover. If a streak persists, contact your dealer or the technical support number listed on the insert in this manual for further assistance.

D. Cleaning the Printer's Case

Your Color ID Card Printer has a durable casing that should retain its luster and appearance for many years. Clean it only with a soft cloth slightly dampened with water or a mild soap. Do not use excess water or cleaning solvents of any kind. Never spray the cabinet with a cleaner. Rather, spray the cloth first, then wipe down the printer.

E. Cleaning the Inside of the Printer

As you use your printer, dust and other foreign particles may accumulate inside the printer's case. These particles are attracted to the underside of the ribbon by static produced during printing and can cause voids on the printed image. Periodically, use the following procedure to remove dust and other foreign particles:

1. Open both of the printer's top covers.
2. Remove the ribbon from the printer and set it on the ends of its ribbon cores.
3. Remove any overlamine which may be installed in the printer.
4. Use a Cleaning Pad from the Printer Cleaning Kit or a soft, lint-free cloth **slightly** moistened with isopropyl alcohol to wipe out all visible areas inside the printer. Remove any debris that may be inside. **Be extremely careful not to let any alcohol drip inside the printer!**
5. Once the cleaned areas are completely dry and free of foreign debris, re-install the ribbon and close the cover.

F. Clearing a Card Jam

If a card becomes jammed inside the printer for some reason, remove it through the following steps:

1. Leave the power ON and open either or both of the printer's top covers.
2. Remove the ribbon and/or overlamine if needed.
3. Press the on/cancel button to advance the card. Press the on-line button to reverse the card.
4. Close the cover. Press the on/cancel button to clear its input buffer memory. Select the **Cancel** button (or equivalent) in your application program and start the print over again.

G. Clearing a Ribbon Jam

If the ribbon or overlamine becomes jammed in the drive roller (visible when you open the printer's top covers), use the following procedure to correct the problem:

1. Leave the power ON and open either or both of the printer's top covers.
2. Remove the Take-Up core (the side with used ribbon or overlamine on it) from in between the two black Drive Hubs.
3. Steadily pull the ribbon or overlamine up and out of the printer as you press and hold down the printer's on-line button. This will rotate the drive roller backwards and eject the ribbon or overlamine while you are pulling gently upwards. Do not jerk the ribbon or overlamine to free it from the roller since this will increase the chance of breaking it.
4. If the drive roller appears dirty after the jam is cleared, clean it according to the steps in section I.

H. Cleaning the Card Feed Rollers

To assure consistent printer operation, all of the gray card feed rollers within the printer should be cleaned during every ribbon change (every 250 prints) or if the rollers are noticeably dirty. To clean these rollers, use the special adhesive-backed Cleaning Cards from the Printer Cleaning Kit. Refer to the following steps to run a Cleaning Card through your printer:

1. Remove the ribbon, overlamine, and cards from the printer. The Cleaning Roller Assembly can remain within the printer during this cleaning process.
2. Remove the Cleaning Card's adhesive backing paper.
3. With the top covers closed, insert the Cleaning Card into the Card Hopper as you normally would any other type of card. Be sure, however, that the shortest non-adhesive end of the Cleaning Card enters the printer first and that the side of the cleaning card with the adhesive backing removed (the sticky side) is facing upward. If the card is inserted with the sticky side facing downward, it will stick to the Card Input Tray and will not feed.



4. Once the Cleaning Card is properly inserted into the Card Hopper, run a printer self test according to Section 6-B of this manual. As the self-test sequence begins, you may need to push the Cleaning Card into the printer to help it initially feed.

5. Allow the Cleaning Card to feed through the printer until the on-line LED flashes. At this point, open the printer's top covers and press the on/cancel button to feed the Cleaning Card out of the printer. Repeat this cleaning procedure if necessary. After the cleaning procedure is finished, close the printer's top covers and turn the printer power OFF and ON to reset the printer.

NOTE

Once you have completed the above cleaning procedure, you should also clean the printer's Drive Rollers and Cleaning Roller Assembly according to the steps in the following sections.

I. Cleaning the Drive Roller

The printer's ribbon and lamination Drive Roller should be cleaned during every ribbon change or after every 250 prints. This helps to prevent jams and maintain uninterrupted service. Also perform this procedure if the roller is visibly dirty. Use the following steps to clean the roller:

- 1.** Open the top covers of the printer.
- 2.** Remove the ribbon and overlamine rolls.
- 3.** Locate the Drive Rollers.
- 4.** Use a Cleaning Pad from the Printer Cleaning Kit or a soft, lint-free cloth ***slightly*** moistened with isopropyl alcohol to wipe the rollers clean. Press the on/cancel and on-line buttons to move the rollers back and forth while cleaning.
- 5.** After the rollers are clean and completely dry, replace the ribbon and overlamine rolls and close the printer's cover.

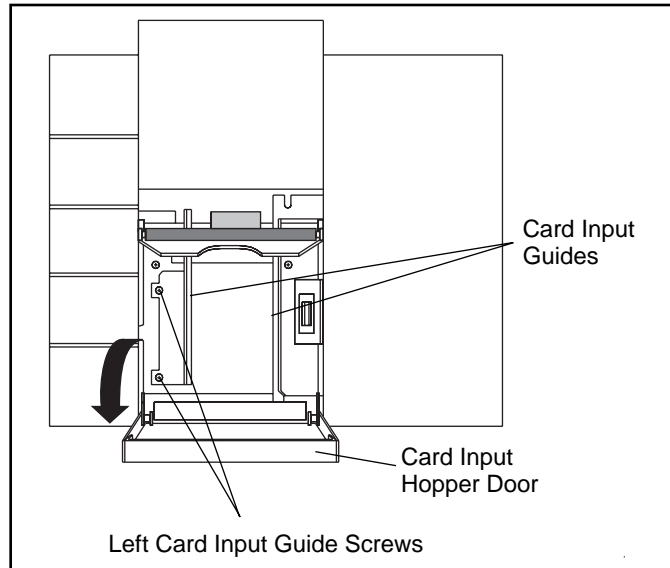
J. Maintaining the Cleaning Rollers

The Cleaning Rollers remove dust particles from the top and bottom of a blank card as it feeds into the printer. Cleaning these rollers will help prevent contaminated cards from passing beneath the printhead, thus extending the printhead's life and allowing for higher quality output. The Cleaning Rollers should be cleaned during every ribbon change or after every 250 prints. Use the following steps to clean these rollers:

1. Open the top-right cover of the printer by pressing its Cover Release Button.
2. Remove the ribbon.
3. Locate the Cleaning Roller Assembly (the two black rollers stacked beneath the Supply Ribbon Drive Hubs on the printer's right-hand side).
4. Reach down in between the empty Ribbon Drive Hubs and lift the Cleaning Roller Assembly straight up and out of the printer. *(Hint: It may help to push in the spring loaded Ribbon Drive Hub when removing or inserting the Cleaning Roller Assembly.)*
5. Once the Cleaning Roller Assembly is removed, clean the rollers using one of the adhesive-backed Cleaning Cards from the Printer Cleaning Kit. With the card's adhesive backing paper removed, slide the card in between the two rollers until all dust particles are removed from both rollers. If you do not have a Cleaning Card, use a piece of standard clear adhesive tape. Use the sticky side of the tape to lift dust from the rollers.
6. Once all dust is removed from the roller, place the roller assembly back into the printer, replace the ribbon, and close the printer's cover.

A. Adjusting the Card Input Guides

Two Card Input Guides reside within the Card Hopper. The left Card Input Guide, as you are looking straight into the Card Hopper, is adjustable to accommodate varying card widths. To adjust this Card Input Guide, refer to the following steps:



1. Open the Card Hopper Door located on the right-hand side of the printer's exterior by grasping the top of the door and pulling straight down. Allow the door to swing completely open.
2. As you are looking straight into the Card Hopper, locate the left Card Input Guide and loosen the two screws which fasten it to the back plate of the Card Hopper.
3. Once these two screws have been loosened, it is possible to move the left Card Input Guide slightly to the right or to the left. Insert the stack of cards.
4. Adjust the left Card Input Guide so it rests flush against the side of the card stack, and re-tighten the two screws loosened in the previous steps. Adjustment to the left Card Input Guide is now complete. If the cards being inserted are 2.3" or wider, refer to section B.

B. Adjusting the Internal Card Guide

Two Internal Card Guides reside inside the printer. These Internal Card Guides are also adjustable to accommodate varying card widths. Although these card guides are spring-loaded and will automatically adjust to slight card width variations, a manual adjustment must be made in order for the printer to accept cards 2.3" or wider.

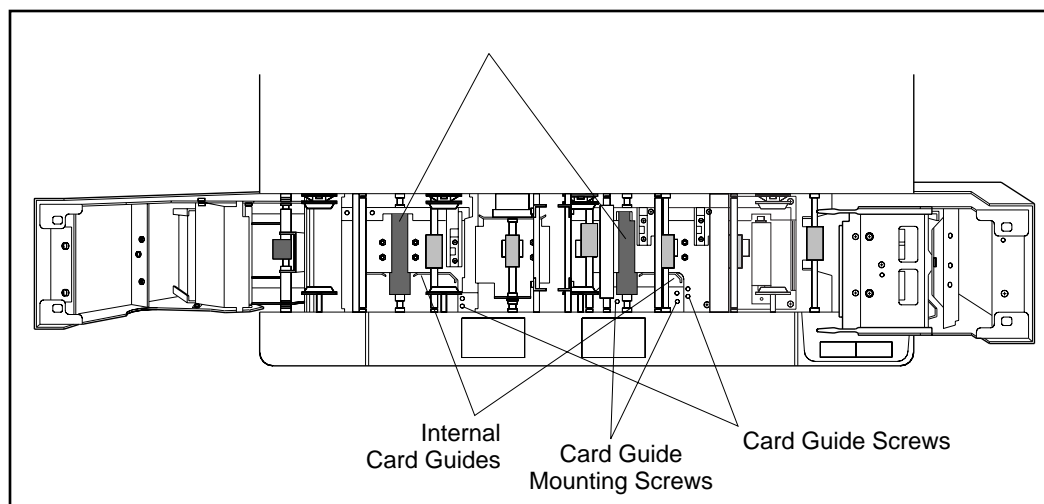
Please refer to the following steps to adjust both Internal Card Guides:

1. Open both top covers of the printer by pressing the Cover Release Buttons. Allow the covers to swing up and open.

9

Mechanical Adjustments

The Color ID Card Printer is pre-set at the factory to accept and consistently feed and print a standard CR-80 3.375"L x 2.125"W x .030" (86mmL x 54mmW x .75mm) card size. When inserting cards which vary from this standard card size, one should make slight adjustments to the Card Input Guides and to the Card Separator Flap for consistent card feeding and for best output quality. This section explains how to make these adjustments and also how to adjust the printer's built-in laminator for optimizing placement of the PolyGuard overlamine.



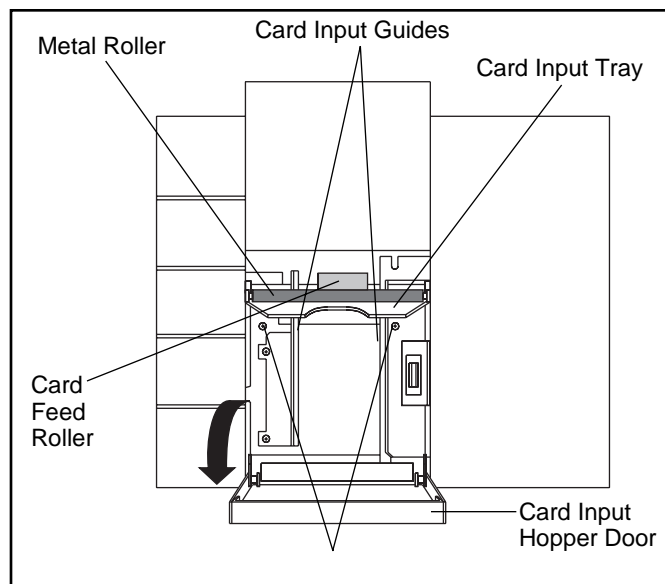
- 2.** Remove the ribbon and overlamine rolls from the printer.
- 3.** As you are looking inside the printer from the front, locate the Internal Card Guide on the left-hand side (the lamination side) of the printer. This guide straddles the laminator's black Drive Roller.
- 4.** Remove the single screw from the two holes residing to the immediate right of the laminator's Internal Card Guide.
- 5.** With your left hand, pull the laminator's spring-loaded Internal Card Guide toward you. If printing onto cards which are over 2.3" in width, pull the Internal Card Guide back behind the top-most hole (the hole furthest from the front of the printer) and re-insert the screw into this hole. Adjustment to the laminator's Internal Card Guide is now complete.
- 6.** Now, locate the Internal Card Guide on the right-hand side (the card input side) of the printer.
- 7.** Remove the single screw from the two holes residing to the immediate right of this Internal Card Guide.
- 8.** With your left hand, pull the spring-loaded Internal Card Guide toward you. If printing onto cards which are between 2.3" and 2.5" in width, pull the Internal Card Guide back behind the top-most hole (the hole furthest from the front of the printer) and re-insert the screw into this hole.
- 9.** If printing onto cards between 2.5" and 2.6" in width, loosen the Internal Card Guide's mounting screws (shown above), slide the Card Guide assembly all the way toward the front of the printer, and retighten the screws. Then, pull the Internal Card Guide back behind the bottom-most hole (the hole closest to the front of the printer) and re-insert the screw into this hole.

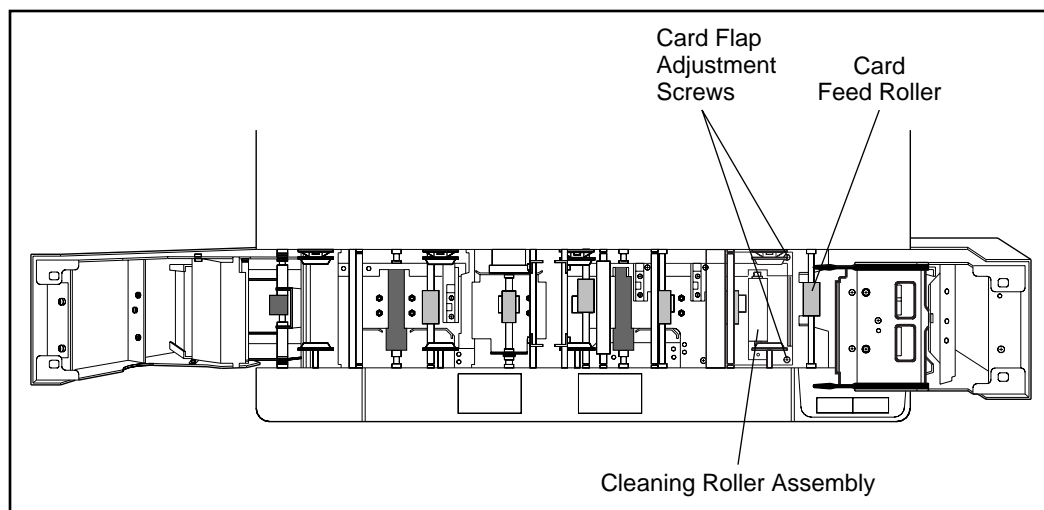
Adjustment to the second Internal Card Guide is now complete.

C. Adjusting the Card Separator Flap

The Card Separator Flap resides inside the printer and helps prevent two cards from feeding simultaneously. This flap is adjustable to accommodate varying card thicknesses. Although the Card Separator Flap will automatically adjust to slight card thickness variations, a manual adjustment should be made in order for the printer to consistently feed single cards which vary from the standard CR-80 .030" card thickness. To adjust the Card Separator Flap, refer to the following steps:

1. Open the Card Hopper Door located on the right-hand side of the printer's exterior by grasping the top of the door and pulling straight down. Allow the door to swing completely open.
2. Remove all cards from the Card Hopper.
3. Open the top-right cover of the printer by pressing its Cover Release Button. Allow the cover to swing up and open.
4. Remove the ribbon from the printer.
5. As you are looking straight into the Card Hopper, locate the two single screws which reside in the upper corners of the back plate of the Card Hopper. You will find one screw to the right of the right Card Input Guide and one screw to the left of the left Card Input Guide. Loosen these screws.





6. As you are looking inside the printer from the front, locate the two single screws located just to the left of each **end** of the **first Card Feed Roller**. Rotate these screws to adjust the Card Separator Flap.

7. Rotate the screws clockwise to move the Card Separator Flap upward or counter clockwise to move the flap downward. If inserting thicker cards, move the Card Separator Flap downward. If inserting thinner cards, move the flap upwards.

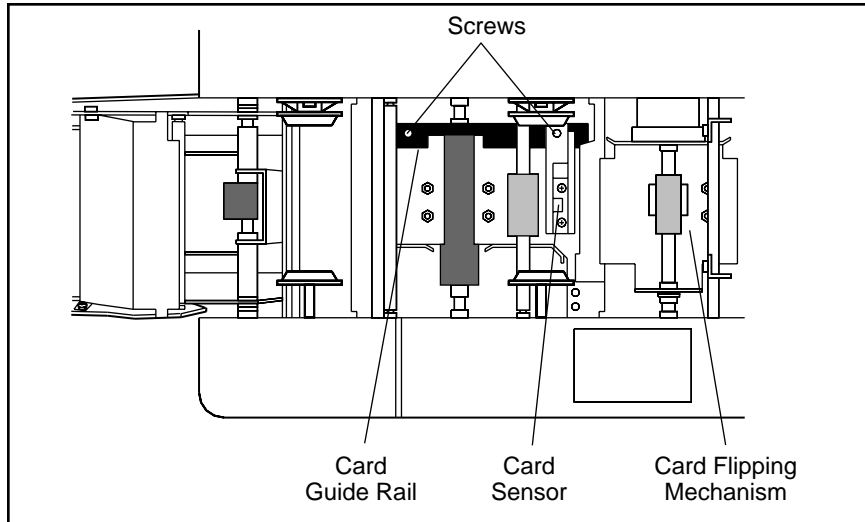
When adjusted properly, ***the space between the Card Separator Flap and the first Card Feed Roller should be approximately the same as the thickness of your card stock.*** To accurately view this space, look directly into the Card Hopper and locate the **shaft** of the Card Hopper's first Metal Roller and the **shaft** of the first Card Feed Roller (see illustrations to locate these items). With the spring-loaded Card Input Tray pressed down, direct your line of sight into the Card Hopper so that the **shaft** of the Metal Roller appears directly in front of the **shaft** of the Card Feed Roller. Only when this line of sight is established can you accurately judge and adjust the position of the Card Separator Flap. Remember that the flap must always be adjusted parallel to the Card Feed Roller.

8. Once you have adjusted the Card Separator Flap to the optimum level, tighten the screws loosened in step 5 to secure the Card Separator Flap in place.

9. Adjustment to the Card Separator Flap is now complete. Replace the ribbon and cards, and shut the printer's top-right cover and Card Hopper Door to begin printing.

D. Adjusting the Laminator

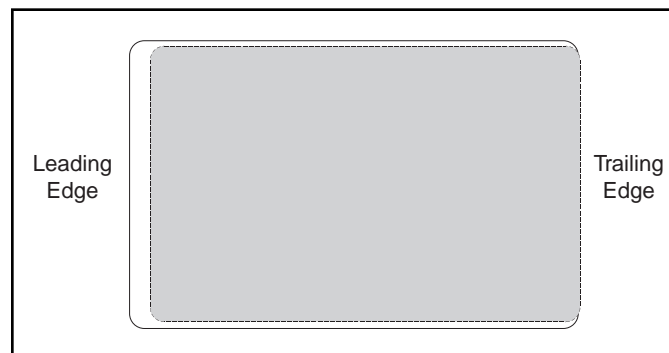
When applying the PolyGuard overlaminate, you may find that the individual polyester chips from the overlaminate roll may be slightly off-center when applied to a card. This is due to slight variations in the position of the chips on each individual overlaminate roll. To center these chips, two simple adjustments can be made.



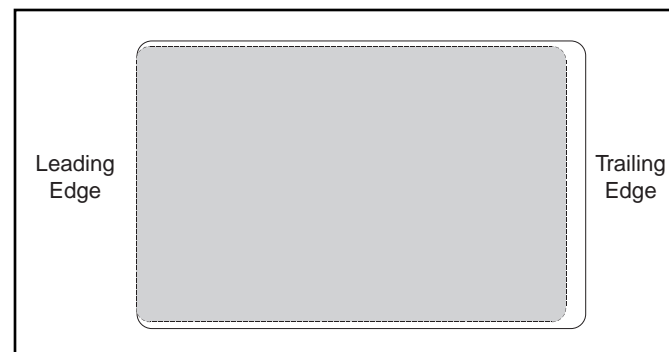
Please refer to the following steps to adjust the **side-to-side** position of the PolyGuard chip:

1. If the PolyGuard chips are being applied too closely to, or overlapping, a card's leading or trailing edge, the laminator's Card Sensor should be adjusted. To do this, simply **loosen** the single screw which fastens the sensor to the Card Guide Rail.

2. If the PolyGuard chip is being placed more toward a card's trailing edge (as shown), move the Card Sensor slightly toward the card input end of the printer (opposite the direction you would like the chip to move).



3. If the PolyGuard chip is being placed more toward a card's leading edge (as shown), move the Card Sensor slightly toward the card output end of the printer (opposite the direction you would like the chip to move).

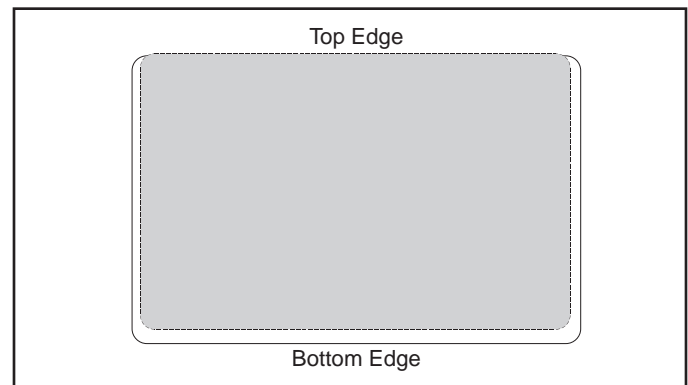


4. Always make very slight adjustments to the Card Sensor, and run a test print after each adjustment until the optimum chip position is found. Also, after each adjustment, retighten the screw loosened in step one.

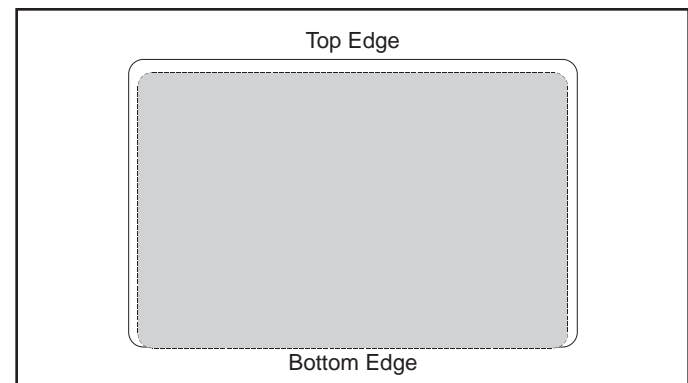
Please refer to the following steps to adjust the **top-to-bottom** position of the PolyGuard chip:

1. If the PolyGuard chips are being applied too closely to, or overlapping, a card's top or bottom edge, the laminator's Card Guide Rail should be adjusted. To do this, simply **loosen** the two screws which fasten the Card Guide Rail to the printer's main chassis.

2. If the PolyGuard chip is being placed more toward a card's top edge (as shown), move the Card Guide Rail slightly toward the rear of the printer (opposite the direction you would like the chip to move).



3. If the PolyGuard chip is being placed more toward a card's bottom edge (as shown), move the Card Guide Rail slightly toward the front of the printer (opposite the direction you would like the chip to move).



4. Always make very slight adjustments to the Card Guide Rail, and run a test print after each adjustment until the optimum chip position is found. Also, be sure the Card Guide Rail always remains parallel to the card path and that the screws loosened in step one are retightened after each adjustment.

The printer doesn't work at all.

Symptoms: nothing happens or an error message comes up in the Windows application program.

- Make sure that the power cord is plugged in securely on both ends and that the printer is turned ON. Confirm power is applied by pressing the power switch on the rear panel of the printer. Also, be sure the printer is on-line. The green LED below both the on/cancel and the on-line buttons should be illuminated.
- Make certain that the printer cable is securely connected. An error message in the software application telling you that the printer is not responding is usually due to a missing or defective parallel interface cable.
- The top covers are not securely latched shut.
- If your computer seems to raster the image and send it to the printer, but the printer does not react at all, you may be in need of more hard disk space for the size of your image. You should have enough space on your hard disk for double the size of the file you are trying to print.

The on-line LED or on/cancel LED light is flashing.

Symptoms: LED blinking could mean one of several errors.

- If the on-line LED is flashing, this indicates a recoverable printing error. Check that cards, ribbon and overlamine (if applicable) are installed in the printer. Replace media as required. Check that cards are pushed all the way into the printer and that the ribbon and/or overlamine is installed properly. Also, check for an initial ribbon or card jam as the print process begins (see Section 8 for instructions on clearing a jam). Once media is installed properly, press the on-line button to resume your print.
- If encoding magnetic information onto a card while printing, a flashing on-line LED can also indicate a magnetic mis-verify. If magnetic information is not encoded properly or encoded onto a bad magnetic stripe, the printer is unable to verify the magnetic data. When this happens, the on-line LED will begin flashing once the card has finished printing. Press the on-line button to resume printer operation. Chances are, the magnetic stripe is not faulty and the card simply needs to be re-encoded. Select the Mag Encode Only option (see Section 7-C) from the driver and run the card back through the printer.
- If the on/cancel LED is flashing, this indicates an unrecoverable printing error. Such errors can include a card or ribbon jam occurring after the first print pass or a data transmission error. Press the on/cancel button to clear the printer buffer, clear any media jams according to the instructions in Section 8, and restart your print job.

10

Troubleshooting

If you have difficulty operating your Color ID Card Printer, the troubleshooting suggestions below should, in most cases, solve the problem. If you still have difficulty after trying these suggestions, refer to the insert in this manual for technical support information.

I'm having problems printing from Windows 95.

- Print with either the **32-Bit Print Spooler** or the **Write Direct to Port** option selected from within the printer driver setup (see Section 7-B and C for more information on these options). In most cases, one or the other of these options will provide the best results when printing from Windows 95.
- Due to the wide variety of PC hardware and software configurations, however, some systems may print more effectively through the system spooler of Windows 95. If you choose not to print with either the 32-Bit Print Spooler or the Write Direct to Port option selected, but instead wish to print through the Windows 95 system spooler, the following steps will help you optimize your system for printing:
 1. Click the **Start** button, point to **Settings**, and select **Printers**. When the Printers window appears, click on the Color ID Card II printer icon using the *right* mouse button and select the **Properties** option.
 2. Select the **Details** tab, then select the **Spool Settings** button.
 3. Select the **Print directly to the printer** option and click on **OK**.
 4. Again from the Details tab, select the **Port Settings** button.
 5. Deselect both the **Check Port state before printing** option and the **Spool MS-DOS print jobs** option, and click on **OK**.
 6. Increase the **Transmission retry** value of the Details tab from 45 to **900**. Click on **OK** to close the Properties window.

The card, ribbon, or overlamine is jammed.

Symptoms: printer makes strange sounds or stops printing.

- If your dye-sublimation ribbon is sticking to the card, check to see that you are using a card with a polished PVC finish. A card with a dull or sticky finish can cause the ribbon to stick to its surface causing the ribbon to jam or even break.
- Review the proper procedures for clearing ribbon and card jams in Section 8.
- If you are using an acceptable video imaging card stock and the ribbon or overlamine is still consistently being jammed down into the drive roller, you may need to reposition the Headlift Assembly. To do this, simply open both of the printer's top covers. With the printer powered ON, push down both the on/cancel and the on-line buttons at the same time. You should then hear each Headlift Assembly simultaneously rotating and realigning itself.

The ribbon or overlamine has torn or even broken.

Symptoms: printer stops printing or simply continues to wind the take-up end of the roll.

- If your dye-sublimation ribbon is sticking to the card, check to see that you are using a card with a polished PVC finish. A card with a dull or sticky finish can cause the ribbon to stick to its surface causing the ribbon to jam or even break.
- You may have tried to feed in a card that was too thick or perhaps two cards fed at once; this can sometimes cause the ribbon to tear or break.
- If your ribbon or overlamine breaks, simply tape the broken end of the supply roll directly onto the take-up roll. Then, wind a few inches worth of ribbon or overlamine from the supply roll onto the take-up roll. Be sure the ribbon or overlamine is passing beneath both the supply and take-up rolls.

The PolyGuard overlamine is not centered on my card.

- When applying the PolyGuard overlamine, you may find that the individual polyester chips from the overlamine roll may be slightly off-center when applied to a card. This is due to slight variations in the position of the chips on each individual overlamine roll. To center these chips, refer to Section 9-D for instructions.

My prints have “streaks” in them.

Symptoms: scratches that travel the entire length of the printed card.

- There may be dust on the printhead. Review the proper procedures for printhead cleaning in Section 8.
- There may be a scratch or a burned out element in the printhead. Contact your dealer or the technical support number listed on this manual’s insert for printhead replacement information.

My prints have “blotches” (small voids) in them.

Symptoms: small spots on the print with no ink or different colors of ink.

- Most likely due to dust inside the printer. Review the procedures in Section 8 for cleaning the inside of the printer.
- May also be caused by dust or embedded contaminants on the card. Be sure the cards you are using are clean and stored in a dust free environment. Some cards have embedded contaminants in their polished surface and should not be used.
- May also be caused by a filthy Cleaning Roller. Refer to Section 8 for instructions on maintaining the Cleaning Roller.

The photos on my ID cards look very pixelated.

Symptoms: photos do not look smooth or continuous, but rather grainy and unclear.

- Some applications have selections you must enable in order for the Color ID Card Printer to use its own dither patterns. For best output, you should always use the Color ID Card Printer's dither patterns. Refer to your application program's instruction manual or contact the software manufacturer for details on how such selections are enabled.
- For best photo-realistic output, you should always use high resolution 24-bit images. If scanning an image, always scan the image at a 24-bit color setting, at the same size at which you will be printing, and at 300 dpi. If you stretch or "blow up" a small or low resolution image, you will always get a pixelated or grainy effect when printing.

The printer's top cover won't shut.

Symptoms: something seems to be in the way and I'm afraid to push harder.

- Check that the ribbon and/or overlamine is seated properly in the printer.
- Check that nothing did in fact fall into the printer. Then, go ahead and push slightly harder. The cover and cover latch must engage and this does require some pressure as the cover is closed.

A card feeds in and acts like it's printing, but nothing is printed.

Symptoms: printer sounds like everything is fine, but no image.

- You may have loaded the ribbon upside down. Open the printer's top cover and check what's happened. If you did load it upside down, reinstall the ribbon properly and give the printhead a thorough cleaning (see Section 8 for printhead cleaning instructions). Be careful not to damage the printhead.
- The ribbon may have been loaded backwards. This causes no harm, just turn the ribbon around so the supply roll is on the right side of the printer and the take-up roll is on the left side of the printer, with the ribbon feeding from beneath both rolls.
- Check the application program. You may have sent down a request to print absolutely nothing.

The card won't feed and the on-line LED starts blinking.

Symptoms: printer starts to make noise like everything is fine, but no card feeds.

- Be sure the cards are inserted all the way into the printer and that you haven't inserted more than 100 standard sized cards.
- You're trying to feed a card that's too thick. Be sure the cards you are using fall within the .020" to .060" accepted card thickness range.
- If feeding thicker cards, you may need to adjust the Card Separator Flap as described in Section 9.
- The in-feed rollers are extremely dirty. Clean these rollers according to the directions in Section 8.
- Be sure the cards you are using are not sticking together. Manually separate the cards if you suspect they are sticking to one another.

The printing gets cut off or is not centered on the card.

- Check that the correct card size is selected in the printer driver setup. Improper card size settings will always send your image to the wrong area of the card.

Two or more cards feed at the same time.

- Be sure the cards you are using are not sticking together. Manually separate the cards if you suspect they are sticking to one another. If separating cards, remember not to touch the surface of the card where you intend to print, since dirt or oil from your hands will impair print quality.
- You may need to adjust the Card Separator Flap if feeding cards varying from the standard CR-80 3.375"L x 2.125"W x .030" (85.6mmL x 54.0mmW) card size. See Section 9 for adjustment instructions.

I can't get the cards in between the Card Input Guides.

- You may be trying to load cards that are too large. Be sure the cards being loaded are within the accepted card sizes of 2.1" W x 3.0"L (53mmW x 76mmL) to 2.6" W x 3.7" L (66mmW x 94mmL). If the cards you are loading are within these specifications and still do not fit within the Card Guides, you may need to adjust the Card Input Guides. See Section 9 for adjustment instructions.

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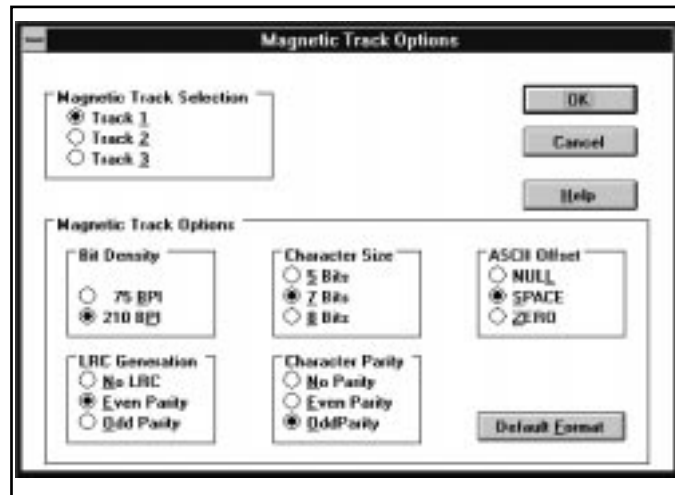
Technical Specifications

Printing Method:	Dye-sublimation/ resin thermal transfer
Printing Resolution:	300 dpi (11.8 dots/mm)
Colors:	Up to 16.7 million
Print Speed:	Approximately 8 seconds (K) Approximately 15 seconds (KO) Approximately 30 seconds (YMCKO) Additional 45 seconds required if applying PolyGuard overlamine
Printing Area:	Standard CR-80 Card: <u>Card Size</u> 2.13" (54mm) x 3.38" (86mm) <u>Print Area</u> 1.93" (49mm) x 3.1" (80.5mm) Oversize Card: <u>Card Size</u> 2.36" (60mm) x 3.62" (92mm) <u>Print Area</u> 2.24" (57mm) x 3.5" (88mm)
Accepted Card Width:	2.1" to 2.63" W (53mm to 67mmW)
Accepted Card Length:	3.25" to 3.88" L (82mm to 98mmL)
Accepted Card Thickness:	.01" to .04" (.254mm to 1.02mm);
Card Types:	PVC or Polyester cards with polished PVC finish; monochrome resin ribbon required for straight polyester cards
Card Capacity:	Accepts up to 100 standard CR-80 PVC Cards; auto or manual feed
Software Driver:	Windows driver included for IBM-PC's and compatibles
Interface:	Standard 8-bit Centronics-type parallel (ECP compatible)
Operating Temperature:	65°F to 80°F (18°C to 27°C)
Humidity:	Non-condensing 20%–60%
Dimensions:	10.44" H x 24.79" W x 10.94" D (265mmH x 630mmW x 278mmD)
Weight:	42 lbs. (19 kg)
Agency Listings:	Safety standards: UL 1950, CSA C2.2 and TÜV-GS (IEC-950); Emissions standards: FCC Class A, CRC c1374, Class A and TÜV-EMC (IEC-801 -2, -3, -4; CISPR 22, Class B) CE
Supply Voltage:	110-120 or 220-240 VAC
Supply Frequency:	50 Hz/ 60 Hz
Options:	<ul style="list-style-type: none">• Magnetic Stripe Encoding Module, High and low coercivity, Tracks 1, 2, and 3• CardMaker for Windows software

A. Introduction

The Color ID Card Printer has a Magnetic Stripe Encoding Module available as a factory installed option. Either a high or a low coercivity magnetic encoder is available (specify high or low when ordering). Both encoding modules will encode on Tracks 1, 2, and 3.

When encoding, the Color ID Card printer will encode according to the ISO standards for magnetic encoding. These standards are preset within the printer driver and will remain as the default until modified. Although these settings will suffice for most applications, it is possible to change or customize the printer's magnetic encoding process. To do this, simply select the **Magnetics** button from within the printer driver setup window and change the Magnetic Track Options according to how your specific magnetic stripe reading equipment is configured. This window is shown below. Please note that all options must be changed separately for each of the three individual tracks. To set these options back to the ISO standard settings once they have been changed, simply select the **Default Format** button for each of the separate tracks.



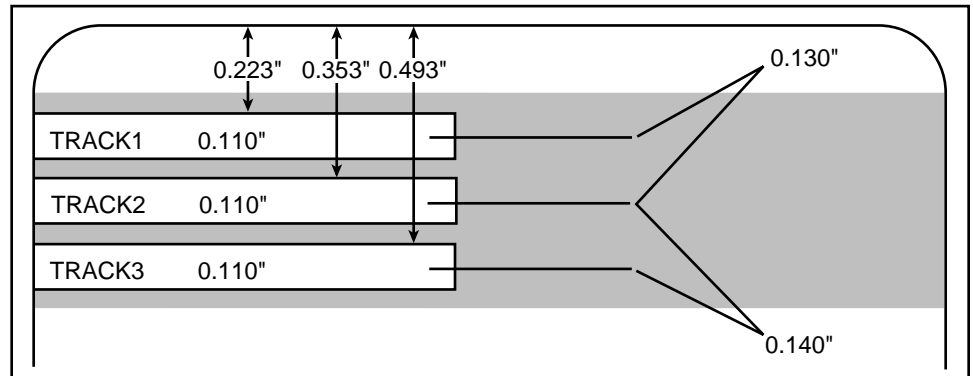
Appendix

A

Magnetic Stripe Encoding Module

B. Track Locations

The magnetic encoding module encodes onto tracks in accordance with an ISO 7811-2 magnetic stripe. Refer to the following diagram for track locations:



C. Sending Track Information

Magnetic track data is sent in the form of text strings from the application software to the printer driver along with all of the other printable objects within your card design. In order for the printer driver to differentiate between magnetic track data and the rest of the printable objects, the magnetic track data strings must be uniquely "tagged." In other words, specific characters must be added to the magnetic track data in order for the printer driver to know which data is to be encoded, which tracks to encode, when the track data stops and starts, and so forth. In some cases, these specific characters are automatically added to the string of track data by customized ID software applications. In most cases, however, the user must manually add these characters to the string of magnetic track data. If these characters are not added to the track data, the text intended for the magnetic track will most likely appear as printed text on the card. To avoid this, track information must be entered as follows.

When entering track data, the "~" character is entered first, followed by the track number (1, 2, or 3) on which you intend to encode the data. The data to be encoded should then follow. The first character of this data string must be the track's specific Start Sentinel (SS) and the last character must be the specific End Sentinel (ES). The characters or data in between the SS and ES can include all of the valid characters specific to each track. The number of these characters, however, is limited by each track's maximum character capacity. When segmenting track data, the appropriate Field Separator (FS) must be used. The following table shows the SS, ES, FS, and the valid characters defined for each track.

	Start Sentinel	End Sentinel	Field Separator	Valid Characters	# of Characters
Track 1	%	?	^	0-9, A-Z, Punct. (ASCII 32-95)	78
Track 2	;	?	=	0-9, ;, =, ? (ASCII 48-63)	39
Track 3	;	?	=	0-9, ;, =, ? (ASCII 48-63)	106

The following example illustrates how track data should be entered for tracks 1, 2, and 3:

Example: Sending data to Track 1
~1%JULIE ANDERSON^623-85-1253?

Sending data to Track 2
~2;0123456789?

Sending data to Track 3
~3;0123456789?

Appendix

B

Interfacing
Information

A. Introduction

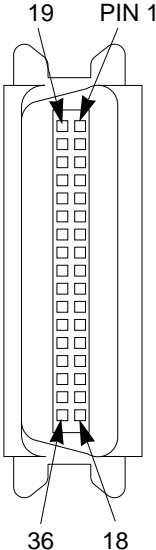
The Color ID Card Printer is equipped with a standard 8-bit Centronics-type parallel data communications port. This is the means by which the printer receives data from your computer. No options for serial data are available. This section describes the pin assignments, protocol, and signal specifications for the parallel data input port.

B. Centronics-type Parallel Interface

The Centronics-type parallel interface is the most widely used printer interface due to its simplicity, speed, and standardization throughout the PC industry. The printer's parallel interface connector is a standard 36-pin Amp type with two metal-wire retaining clips and is ECP (Extended Capabilities Port) compatible. It mates with a standard PC to printer parallel cable. Try to keep the interface cable to under 6 feet if possible.

Pin assignments are as follows:

WIRE DIAGRAM	
DB36P	DB25P
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
32	15
31	16
36	17
19 THROUGH 30	19 THROUGH 25
SHELL	SHELL



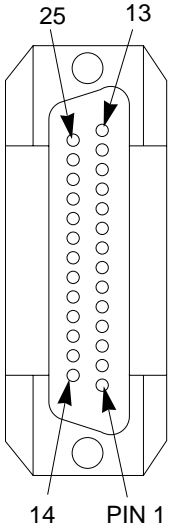


TABLE B-1: Parallel Interface Pin Assignments

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NOTES

